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ABSTRACT

This book presents science activities developed by teachers for children ages 3-6 years old. The activities aim to develop science skills including communication, observation, estimation, measurement, cause and effect, investigation, and evaluation in children by using their curiosity as a staring point. Activities include age suggestions, address science skills and materials, directions for the activity, and additional ideas for extending the activity. Activities are grouped under the following categories: (1) Air; (2) Alphabet; (3) Animals; (4) Art; (5) Babies; (6) Beach; (7) Bears; (8) Birds; (9) Bodies; (10) Cats; (11) Colors; (12) Cooking; (13) Day and Night; (14) Dinosaurs; (15) Environment; (16) Fall; (17) Food; (18) Games; (19) Gardening; (20) Habitats; (21) Health and Safety; (22) Holidays; (23) Insects; (24) Light; (25) Magnets; (26) Measurement; (27) Movement; (28) Music; (29) Music; (30) Nature; (31) Numbers; (32) Nursery Rhymes; (33) Nutrition; (34) Oceans; (35) Outer Space; (36) Science Process Skills; (37) Seasons; (38) Senses; (39) Shapes; (40) Sing Language; (41) Special Days; (42) Spiders; (43) Storytelling; (44) Summertime; (45) Transportation; (46) Trees and Plants; (47) Water; (48) Weather; and (49) Winter. (YDS)

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More Than 600 Science Activities Written by Teachers for Teachers

Edited by Kathy Charner

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GIANT
Encyclopedia
of
Science Activities

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for Children 3 to 6

More than 600 Science Activities
Written by Teachers for Teachers

Edited by Kathy Charner

Illustrated by Rebecca Grace Jones

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Dedication

To all the teachers of young children, especially those who contributed to this book

To the creativity of Rosanna Demps and Mike Freeman

To the joint efforts of the editorial team

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Introduction

Children as Scientists

Children are born curious. This curiosity is the key to learning anything, including science. Children want to know how things happen, why they happen as they do, what will happen if—and lots more. Teachers of young children need only to activate their curiosity, providing the opportunities and materials necessary to find out the answers to their questions in the world of science. This book is filled with opportunities for children to learn the how, the why, the what happens now, and many other unique and interesting parts of science. In addition, since the activities in this book have already been used successfully by teachers, the reader can be confident that the activities will "work."

The Building Blocks of Science

In addition to curiosity, the science skills developed and encouraged by the activities in this book include communication, observation, estimation, measurement, cause and effect, investigation and evaluation. A critical part of science learning is communicating the results of the experiment. Drawing a picture, writing or dictating the results of the activity and charting the results are just three examples of how children learn to communicate what they have experienced in activities. From a simple game of "I Spy" to careful observation with a magnifying glass, the ability to look and see things, then look again to see what might have been missed, is an important part of this book. Whether you call it guessing or estimating, it's all the same. Learn the fun of guessing what might happen and then finding out what does happen. Measuring the results of activities is another important part of science, and children love to measure things, from each other to whales. Give them rulers, balance scales, paper inchworms, cups, measuring tapes and other devices so they can measure to their hearts' content. We call it cause and effect; children might say _______ always happens when I do __________. Encourage the children to try something over and over so they will learn for themselves that when a process is repeated, the same results often occur. Understanding cause and effect is an essential scientific skill. Children's natural curiosity drives them to find out why something happens the way it does, to investigate a situation, to examine the results of an activity, to answer the questions they have. The activities in this book help children investigate those questions and find out the answers. Evaluating an activity or the results of an activity is another critical building block of science knowledge. This book is filled with opportunities for children to evaluate activities and the science knowledge they learned from the activities. These skills also develop creative thinking, an essential skill for science (and everything else!).

Set Up for Success in Science

The following ideas will help children be successful in their scientific explorations:

- Approach science activities with enthusiasm.
- Set up child-directed activities so the children can experiment on their own, at their own pace.
- Encourage children to repeat an activity over and over, until the learning makes sense, the fun wears off, the repetition becomes boring, etc.
- Make take-home versions of the activities so the children can try them at home, or show them to their families.
- Introduce the children to a developmentally appropriate version of the scientific method:
  ASK—What will happen if . . .
  GUESS—I think this will happen . . .
  TRY—Test to see if your guess is what really happens.
  ANSWER—This is what happened.
  (See *Let's See What Happens* on page 416 for additional information.)
- Use picture directions (also known as rebus directions) as often as possible. That way children will be able to do the activity on their own.
- Rotate durable science "tools," such as magnifying glasses, balance scales, magnets and magnetic wands, animals, plants and measuring tapes (or nonstandard measuring devices like a hand print covered in clear contact paper or an unsharpened pencil) in and out of the science center.
- Include materials not usually associated with science—like paper, markers and crayons (for drawing, writing or dictating and charting results), bells (for finding out which ones have a high sound and which ones a low sound), tape (for checking its ability to hold different materials) and magazines (for challenging the children to find pictures that relate to a science activity). The list can go on and on. Put any material into the science center and encourage children to use their natural curiosity and science skills to learn about it, then communicate this learning through drawings, charts, stories and more. (See *Science Centers in the Early Childhood Classroom* on page 405 for more suggestions.)

Using Children's Interest as a Starting Point

One day the children notice that the leaves on the trees are changing from green to brilliant oranges and reds, or that the plants in the classroom are drooping, or that some books are starting to wear out and others are not. Children are naturally curious about these kinds of everyday occurrences. Use their curiosity to investigate these events, turning them into "teachable moments." Begin by looking at the table of contents and the index to find activities that can help you and the children discover why things happen the way they do, what to expect the next time the same thing happens, and how to communicate what you know and find out what you don't.

Introduction

How to Use This Book

Age
The age listed is a suggestion. Each teacher is the best judge of the appropriateness of an activity, based on his or her prior knowledge of the children and the children's responses to the activity.

Science skills
The science skills and learning objective of the activity are found under this heading.

Materials
This section contains a list of everything you will need to complete each activity. Most materials are already in a typical classroom. Other materials might need to be purchased from stores or donated by parents.

What to do
The directions for the activities are presented in a step-by-step format. When necessary, patterns and illustrations accompany the activity.

More to do
Ideas for extending the science activity into another science activity or into other areas of the curriculum are included in this section. Many activities include suggestions for integrating the science activity into areas such as math, dramatic play, art, blocks, a field trip, cooking, snack and language.

Related books (and songs)
A list of children's books (and sometimes songs) that relate to the science activity are included in this section.

Original songs (and poems)
Songs and poems written by the teachers who submitted the activities appear here. The songs use familiar melodies; just the words are new.

Index
There is a comprehensive index at the end of this book.

Just listen as the children express their curiosity, then use this book as a tool to begin to satisfy their thirst for knowledge.

3+

Across the Water

Science skills

Children use observation to identify differences and recognize similarities, and they see how cause and effect works.

Materials

Jelly roll pans, or any flat metal or plastic lid with sides
Water
Styrofoam packing pieces
Food coloring

What to do

1. Place each pan on a table.
2. Pour in a small amount of water to cover the bottom of the pans.
3. The children can make ripples on the water by blowing gently. Give a name to this wind (gentle breeze, light wind).
4. Two children can stand across the table from each other and blow pieces of Styrofoam back and forth. Investigate to find out what other objects can be moved by the wind on the water.
5. Observe the change in the water as you add drops of food coloring. Swirl the water around and watch as it gradually turns a different color.
6. Compare gentle wind to strong wind by letting two children stand on the same side of the table and blow. Give names to the strong wind (blustery, windy, gale, storm, etc.). After your storms, there will be cleaning up to do!

■ *Linda Ann Hodge, Minnetonka, MN*

3+

Bubble Wand Magic

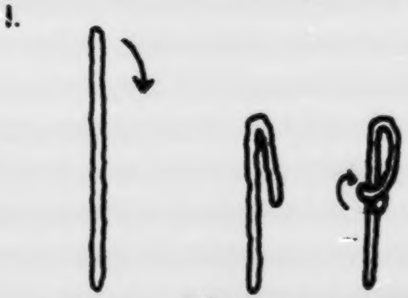
Science skills

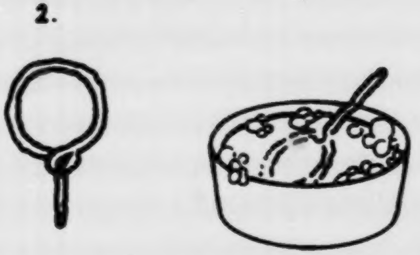
Children use all their senses to observe details and to recognize and identify similarities and differences.

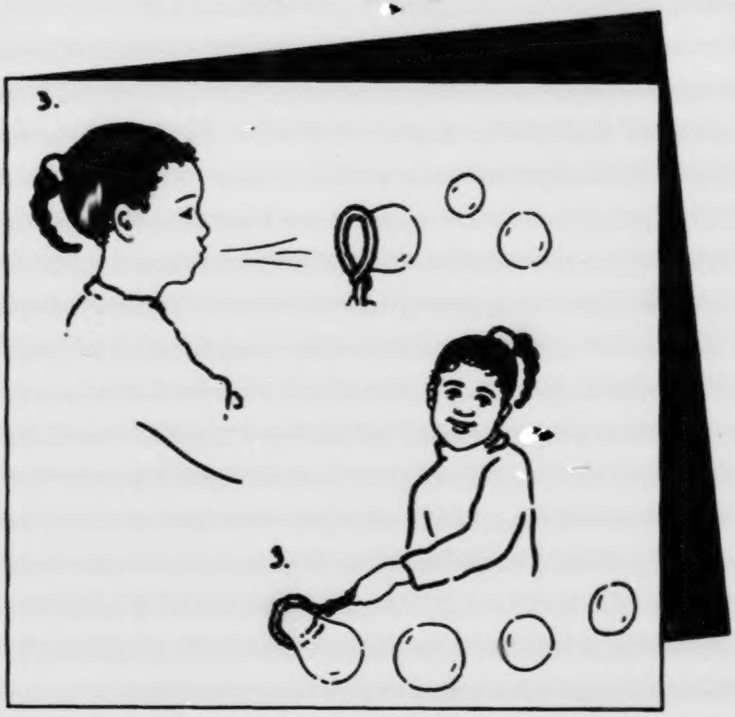
Materials

Pipe cleaners, one per child
Several wide mouth containers of soapy bubble liquid

Air







What to do

1. Give each child a pipe cleaner. Show them how to bend and twist the pipe cleaner to form a loop at the end.
2. The children make bubbles by blowing on the wand circle and by sweeping the wand through the air. Which method makes bigger bubbles? Which method makes more bubbles?
3. Practice making bubbles indoors, if you wish. Compare this to the movement of the bubbles outdoors on a slightly breezy day.
4. Can the children catch and hold the bubbles on the saturated bubble wands? Can they do the same thing using their dry hands? Why?
5. For a simpler version, an adult makes bubbles and challenges the children to touch them, catch them and jump on them.

Original poem

Bubbles floating in the air,
Bubbles floating everywhere.
And the only time they stop,
Is when the bubbles pop! pop! pop!

Related book

Piggyback Songs: New Songs to the Tune of Childhood Favorites by Jean Warren

Christina Chilcote, New Freedom, PA

3+

Bumper Pool

Science skills

Children practice observation skills and have an opportunity to see cause and effect.

Materials

Small Styrofoam balls, 1" to 1½" (2.5 cm to 3.75 cm)
Large package of straight plastic straws

What to do

1. Be sure the water table is clean and dry.
2. Place Styrofoam balls in the water table.
3. Give each child a straw.
4. Encourage the children to blow the balls around the table and bump other balls by blowing into the straws.

More to do

More science: For a small group you can place large cookie sheets at the table. Give the children a couple of balls each, and have the children race the balls from one end of the cookie sheet to the other by blowing. Show the children how they can move more than one ball by moving their heads back and forth as they blow.

■ *Rinnie Wells, Norman, OK*

3+

Feather Race

Science skills

Children see the effects of air pressure.

Materials

Feathers, one for each child
Straws, one for each child

What to do

1. Talk with the children about air.
2. Let the children put their hands to their mouths and blow to feel the air on their hands.

3. Explain that they are going to use air to play a game.
4. Give each child a straw with a feather placed in one end.
5. At the count of three, the children blow into their straws and see whose feather flies the farthest.

More to do

Art: Let the children paint with feathers and tempera paint.

Math: To work math into the feather experiment, measure the distance each feather went and make a graph with your results.

Cindy Winther, Oxford, MI

Blowing Bubbles

3+

Science skills

Children observe that air occupies space, and they practice fine motor skills.

Materials

Plastic straws
Small plastic cups or margarine containers
Dishwashing detergent or baby shampoo
Water

What to do

1. Cut the straws in 4" (10 cm) lengths.
2. Fringe one end of each straw piece by snipping it several times about ¼" (6 mm).
3. Mix one teaspoon (5 ml) of detergent or baby shampoo with one cup (250 ml) of water; pour ½" (13 mm) of the mixture into the containers.
4. Demonstrate blowing by holding a piece of paper and watching it move as you blow.
5. Have children do the same.
6. Dip the fringed end of the straw into the solution and blow gently to form a bubble. Tell the children that the air is now trapped inside the soap film.
7. Give each child a straw and a container of soapy solution.
8. Instruct them to dip the cut end into the solution, then blow gently.

Mary Jo Shannon, Roanoke, VA

3+

Water in your Breath

Science skills

Children learn about water vapor with this simple activity.

Materials

Small mirror

What to do

1. Let each child take a turn holding a small mirror close to his lips.
2. Have each child open his mouth as wide as he can and blow out.
3. A foggy spot will form on the mirror.
4. Touch the spot.
5. The spot is liquid water.
6. Explain to the children that water vapor is in your body and when you blow out, the water vapor in your breath hits the cold mirror. The water condenses and changes into liquid water and forms the spot on the mirror.

Cindy Winther, Oxford, MI

3+

Magical Air

Science skills

Children observe a surprising and fun experiment, learn about cause and effect and draw conclusions.

Materials

Balloons
Water table or clear plastic bin
Paper towels
Paper airplanes
Transparent glass or plastic cup

What to do

1. Show a blown-up balloon. Ask, "What is in the balloon? How did it get there?"
2. Fly a paper airplane. Ask, "What makes the airplane stay up?"
3. Ask children to stand up and spread out so no one is touching anyone else. Say, "Let's see what happens if you move your arms like this. (Make small circles with arms). "What do you feel?"

Air

4. Ask children to give other examples of air (blowing bubbles in water, flying kites, trees blowing in the wind, etc.).
5. Sit down with the children. Say, "Yes, air is here even if we can't see it. It takes up space. Let's do an experiment. What do you think will happen if I crumple up this paper towel, put it in this glass and turn the glass upside down in water?" Almost all children will say that the towel will get wet.
6. Say, "OK, let's see." Place the crumpled paper towel inside the glass. Turn it upside down and push it straight down in the water. Check the towel. It doesn't get wet.
7. Discuss the children's thoughts about the reason for this. Yes, air really is there even though we can't see it. It does take up space.
8. Let the children repeat the experiment for themselves. Have materials on hand so children can experiment in small groups.
9. Tell parents what you did since children get so excited about this "magic" they may want to try it again at home.

Sharon F. Milner, Carrollton, GA

Bubble Works

3+

Science skills

With these great bubble ideas, children practice observation, language and measuring skills.

Materials

Homemade bubble solution:
2 cups (500 ml) water
¼ cup (60 ml) glycerine
2 tablespoons (30 ml) liquid dish soap

Straws, one per child
Light colored paper
Ruler
Prism
Low-sided tub

What to do

1. Blow bubbles and catch them on a sheet of paper. They will pop upon contact with the paper but they will leave imprints.
2. Measure the bubbles' sizes using rulers or your own instruments of measure.
3. Use a prism to make the rainbow colors that you see inside a bubble.
4. Let children try a variety of items to make bubbles with, including paper/plastic tubes, slotted spoons, colanders, etc.
5. Make a bubble pipe. (You will need a polystyrene cup, a straw and a pencil.) Punch a hole in the base of the cup and insert the straw. Put some bubble solution into the cup. The children can blow bubbles from their own bubble pipes.
6. Make My Bubble Books. Draw or paint bubbles of different colors and sizes.
7. Where is the bubble? The teacher blows a bubble and the children describe where it goes and where it lands. Children take turns blowing bubbles and telling where their bubbles go.
8. Put soapy water in tubs or a sensory table with egg beaters.

Original song

Bubbles (sing to the tune of "Twinkle, Twinkle, Little Star")

Bubbles, bubbles up so high,
Floating, floating in the sky.
Filled with colors, filled with air,
Popping here, popping there.
Bubbles, bubbles up so high,
Floating, floating in the sky.

■ *Sandra Nagel, White Lake, MI*

3+

Liquid Starch Bubbles

Science skills

The children mix an interesting bubble solution.

Materials

- Smocks
- Liquid starch
- Glitter
- Individual trays
- Dish soap (Ivory works best)
- Bubble wands

What to do

1. Arrange the trays on the table.
2. Pour some liquid starch onto each tray along with a squirt of dish soap.
3. Sprinkle in the glitter.
4. Give each child a tray and a bubble wand. They may scoop some of the mixture into their wands.
5. At first, the ingredients will be soupy and may splatter, but the mixture will thicken.

More to do

Cooking: Make pudding for a snack. The children will see the powder stage, add milk and see the liquid stage, then chill it to see the solid stage.

More science: A cornstarch goop table can be open at the same time, consisting of cornstarch and water. The children can distinguish between liquids and solids.

Movement: Use a parachute to pretend the class is one giant bubble. The group stands around the parachute and shakes rapidly. On the count of three, raise the parachute in the air, then watch the bubble quickly disappear.

Original poem

I Am a Bubble, Big and Round

I am a bubble, big and round.
I float in the air not on the ground.
The children love to hop and see
If they can pop me!

Related book
Children's Museum of Activity Book: Bubbles
by Benny Zubrowski

Kelly Cassidy, Voluntown, CT

Twirlybirds

4+

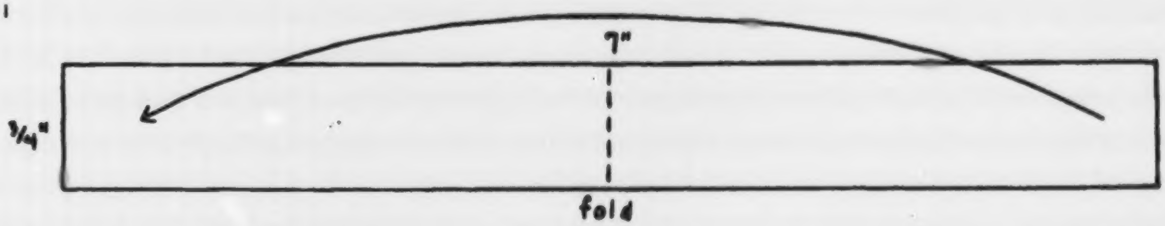
Science skills
Children practice following directions and using fine motor skills.

Materials
Strips of construction paper, ¾" x 7" (19 mm x 17.5 cm)
Paper clips

What to do

1. Give each child a strip of construction paper and show them how to fold their twirlybirds, following the steps below. (Twirlybirds can be premarked with fold lines, prefolded or even premade for very young children.)
2. Each paper is folded in half. The strip is now ¾" by 3½" (19 mm x 8.75 cm).
3. About 1" of one end is folded down at a 45 degree angle.
4. About 1" of the unfolded end is folded in the opposite direction at a 45 degree angle.

1



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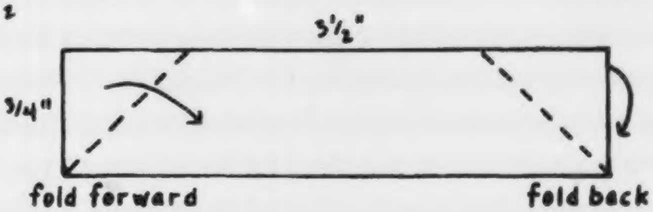

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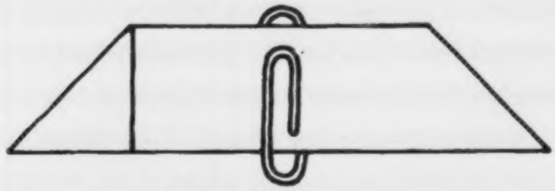


5. Attach the paper clip to the middle fold and open the two end "wings" slightly.
6. Invite the children to toss their twirlybirds in the air and see them swirl to the ground.

More to do

More science: If double maple seeds have been collected in advance, their whirling descent can be compared to the children's twirlybirds.

Original poem

Five little helicopters starting to soar,
One took a trip and then there were four.
Four little helicopters zooming past a tree,
One zoomed away and then there were three.
Three little helicopters twirling in the blue,
One landed on the ground and then there were two.
Two little helicopters flying just for fun,
One flew away and then there was one.
One little helicopter moving toward the sun,
It flew so far that then there were none!

Related books

Budgie the Little Helicopter by Sarah Ferguson, Duchess of York
Harry's Helicopter by Joan Anderson

■ *Christina Chilcote, New Freedom, PA*

4+

Air Pressure Push

Science skills

The children learn to recognize cause and effect.

Materials

Large plastic drinking straws
Cotton balls or ping pong balls
Lid of a large cardboard gift box, approximately 11" x 17" (28 cm x 42 cm)

What to do

1. Place the upside down gift box lid on a table.
2. Place a few cotton balls or ping pong balls in the gift box lid.
3. Give straws to the children.
4. Have the children take turns standing at one narrow end of the lid, pointing their straws at the ball and blowing into the straw.

5. Ask the children what they observed. Did the balls move? Why?
6. Divide the children into two groups. Have one group stand at each narrow end of the lid. Ask them to point their straws at the balls and blow.
7. Ask the children what they observed. Did the balls move? Why?
8. If four children are participating, place one at each side of the lid. Have them point their straws at the balls and blow.
9. Ask the children what they observed this time. Did the balls move? Why?

More to do

Games: Play air pressure soccer by turning the upside down box lid into a soccer field. Draw lines across the lid widthwise in three places, 2" (5 cm) from each narrow end and exactly in the middle of the lid. Give straws to two to four children. Divide the children into two teams. Place one team at each narrow end of the lid. Place a cotton ball in the center of the lid. When the teacher says "Go!" each team tries to blow the ball into the opposite end zone. The game is over when three goals have been scored. Group the other children into teams and let them have a turn.

Related book

Wind Garden by Angela McAllister

Christina Chilcote, New Freedom, PA

Blow Wind, Blow!

4+

Science skills

The children observe cause and effect, and they try to make predictions.

Materials

Hand-held hair dryer with at least two settings

Classroom objects (include some objects that can be blown easily by the air from the hair dryer and some that cannot), such as:

- Tissue
- Crayon
- Wooden block

What to do

1. Begin the activity with a discussion about wind as air that's moving very fast. Explain how a little wind is called a breeze and a lot of wind is sometimes called a gust.
2. Show children the hair dryer and ask if they know what it is and what it is used for. Turn on the hair dryer and demonstrate how it blows things with air. (Watch for those children who may be frightened by the sound.)

3. Demonstrate the low and then the high settings of the hair dryer. Compare each to a breeze and a gust, respectively.
4. Bring out the lightest of the classroom objects and ask the children if they think a "breeze" or a "gust" will blow it. Using the lowest setting, blow the object across the floor. Bring out another object and repeat the predicting and experimenting. Continue with the remaining items, making sure at least one of the objects is too heavy to move even with the highest setting.
5. Direct the children to choose other items from the classroom to bring to the circle. Ask them to predict whether their choice can be blown by a breeze or a gust. Test their predictions from all angles, since some items can or cannot be moved based on their position.
6. As a transition, tell the children that when the wind blows them, they can leave the circle and go to the next activity. Using the lowest setting on the dryer, gently aim the air flow at each child.

More to do

Art: Use the hair dryer at the art table (with adult guidance) to blow washable watercolors across paper. First put the paper into the bottom of a box to keep splatters contained.

Math: To play a number game, spread out a grouping of objects. Using the hair dryer, blow away a few of the objects. Count how many are left.

Related books

The Wind Blew by Pat Hutchins

Who Took the Farmer's Hat? by Joan L. Nodset

Vickie L. Schneider, Oshkosh, WI

4+

Bubble Shapes

Science skills

Children categorize bubble wands based on their effectiveness as bubble blowers.

Materials

Wire coat hangers

Duct tape

Dishpan or large plastic dish

Wire clippers

Plastic straws

String

Homemade Bubble Solution:
2 cups (500 ml) dishwashing detergent
1 ½ quarts (1.5 liters) water
¾ cup (175 ml) white corn syrup
Mix all ingredients well. Cover and let settle overnight at room temperature.

What to do

1. The day before doing this activity, make up the bubble solution.
2. The next day, clip open the coat hangers and cut off the hooks. Twist the two ends together to make a handle, reinforcing with duct tape. Bend the bubble wands into unique shapes.
3. Attach string through plastic straws for a wiggly wand.
4. Bend and connect the straws into three-dimensional shapes for making unusual bubbles.
5. Pour solution in large pan. Set the pan outside and let the children experiment with the wands and with other common household items, such as rubber lid tops, wire whisk, plastic cookie cutters, plastic colander, plastic soft drink rings, sifters, funnels.
6. Children may categorize wands and bubble makers into groups of good wands/bad wands or best bubble makers.

More to do

More science: Cut a long sheet of paper from a roll and lay it on the ground. Let the children blow bubbles onto the paper to observe splat patterns of different-sized bubbles. • Separate the bubble solution into smaller bowls. Add 1 teaspoon of liquid tempera paint to each bowl, using a variety of colors. Mix. Blow colored bubbles onto white or light-colored paper and observe splat patterns.

Related book

Bubble Trouble by Mary Packard

Susan R. Forbes, Holly Hill, FL

Invisible But Real

4+

Science skills

Children predict and observe the effect of air pressure on various objects.

Materials

Styrofoam packaging pieces
Book
Pail of water
Hand fan
Balloon

What to do

1. Scatter Styrofoam pieces on the floor in a circle slightly larger than the book.
2. Gently drop the book into the center of the circle. Pieces will scatter. What made them move? Air was pushed out of the way by the falling book.
3. Scatter the pieces in front of an open door. Guess what will happen when the door closes. Test the theory by pushing the door hard.
4. Use a hand fan to make the pieces move.
5. Blow up a balloon. It is filled with air.

6. Push the balloon down in a pail of water. Water is pushed out of the way and rises.
7. Put a light-weight book on top of a flat balloon and then blow up the balloon. The book is lifted by the air!

More to do

Art: Paint a picture by blowing the paint around with a straw.

More science: Make a windsock with a 9" x 12" (22.5 cm x 30 cm) construction paper cylinder decorated at one end with tissue paper streamers. • Make kites from paper grocery bags and test them on a windy day.

Sand and water table: Use a bulb baster to transfer colored water from one bowl to another. Air inside keeps water out. You have to squeeze out the air to make room for water.

Related books

The Magic Kite by Kira Daniel
The Windy Day by Janet Craig

Sandra Gratias, Perkasie, PA

4+

The Air Table

Science skills

Children observe the effects of various wind makers on different objects and use classification skills to organize those objects.

Materials

Wind Makers:
Foot air pump (easier for young children)
Hand fan
Air noise makers
Straw painting
Hand air pump
Balloons
Paper bags

Movers:
Feathers
Metal
Short pieces of ribbon
Blocks
Paint
Any other items in the room

What to do

1. Have all the materials available, and wait for a windy day.
2. Talk about the wind and about air. Air is all around us; we breathe and can fill a bag or a balloon with it. Air moves some things.
3. Introduce the wind makers to the children (balloons require close adult supervision). Let them experiment with the wind makers. For younger children, a foot pump is much easier to use than a hand pump.
4. Place the classroom objects on a table. Give the children time to experiment with each and

to see which items can be moved by the air created by the various wind makers and which cannot. Encourage children to categorize items.

More to do

Art: Make wind chimes and hang them outdoors near a classroom window. •Make wind paintings by moving liquid on a level paper with air from a wind maker. •Make decorative hand fans with poster board and tongue depressors.

Tom Gordon, Slippery Rock, PA

The Tortoise and the Hare

4+

Science skills

In the race between the two fabled animals, children observe the effect of wind and make predictions about who will win and why.

Materials

Two 10" (25 cm) circles of poster board, one with the picture of a rabbit on it, one with the picture of a turtle on it
Several sheets of newspaper
Chalk or masking tape
The Tortoise and the Hare fable
Indoors—a 15' x 6' (5 m x 2 m) non-carpeted, open area
Outdoors—a 15' by 6' (5 m x 2 m) smooth surface (concrete, asphalt, etc.)

What to do

1. Mark the starting line with chalk or masking tape. Ten feet (3 m) away mark the finish line in the same manner.
2. Tell or read the fable *The Tortoise and the Hare.*
3. Lay the poster board circles on the starting line about 3' (1 m) apart.
4. Two children are each given a double sheet of newspaper. They use the newspaper to fan the air behind their animal and make their animal move. The first animal across the finish line wins the race.
5. Have the children experiment with the shape of the newspaper. Which shape is the most efficient mover of air—a flat sheet, a sheet folded in half or a sheet pleated into a fan?

Christina Chilcote, New Freedom, PA

4+

There She Blows!

Science skills

Children observe objects of different weights and sizes being moved by wind power.

Materials

Small electric fan or blow dryer
Masking tape
Assortment of lightweight items, such as:
  Cottonballs
  Wads of paper
  Packing nuts
  Leaves
  Ping pong balls
  Styrofoam cups
  Feathers
  Paper cups
Long smooth table or other flat surface
Marker
Assortment of heavy items

What to do

Note: Constant adult supervision is required for this activity.

1. Place fan or blow dryer at one end of table.
2. Place masking tape across the other end of table for the "Finish Line."
3. Ask the children to place objects in a row in front of vortex of fan while the fan is turned off.
4. Have the children guess which object will cross the finish line first.
5. Turn the fan on and observe.
6. Discuss wind force versus the weight and density of the objects.

More to do

Fine motor skills: Encourage children to create their own fans out of half sheets of construction paper folded back and forth.

Games: Create mazes and obstacles for objects to be blown through, over, under, around, etc. to encourage concepts of spatial relationships and construction.

Dani Rosensteel, Payson, AZ

Wind Whirlers

4+

Science skills

Children make a wind toy and observe as the wind plays with it, and they practice fine motor skills.

Materials

Discarded miniblinds (lead-free, vinyl or aluminum), from a local thrift store
Hole punch
Large beads
Markers
String
Yarn

What to do

1. Before you make the wind whirlers, disassemble the blinds and sterilize them in bleach water. Allow to dry. Then, cut the slats into 6" (15 cm) pieces, rounding off the edges. Now punch a hole in the center of each slat.
2. Place the beads and slats on a table for children to string.
3. An adult ties one bead to the end of the yarn, and then instructs children to alternate slats and beads. Children can take turns stringing one classroom whirler, or each child may work on his own.
4. Allow the children to string as long as they like.
5. Top off the string with a loop for hanging, and mark each child's name on a slat.
6. Hang the whirler outside and watch the wind play!

■ *Dani Rosentsteel, Payson, AZ*

Jet Balloon Races

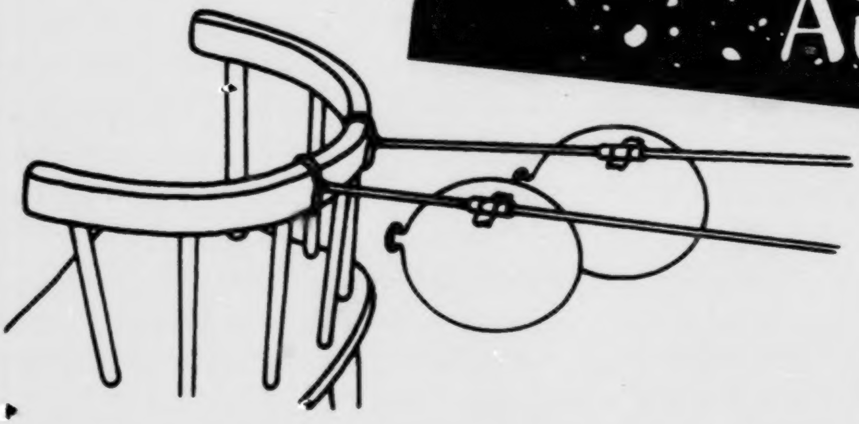
5+

Science skills

Children have fun observing balloon races and predicting how far each balloon will go.

Materials

Balloons, all the same size
2 pieces of smooth string, each at least 10' (3 m) long
Masking tape
2 wooden chairs
1" (2.5 cm) piece of large plastic drinking straw, 1 per balloon



What to do

1. Tie one end of each string to the back of each chair.
2. Explain that as the air rushes out of a blown up balloon, it will push the balloon in the opposite direction.
3. Blow up two balloons to approximately the same size. Pinch the ends closed but do not tie off. Tape a piece of plastic drinking straw to the side of each balloon.
4. Thread the untied end of the string through the straw so that the balloon is close to the chair. Make sure that the untied end of the balloon is facing away from the chairs.
5. Hold the strings taut. At "ready, set, go," release the balloons. Which balloon goes farthest?
6. If one string is held horizontally, while the other string is held at an ascending angle, which wins? If one string is held horizontally, while the other string is held at a descending angle, which wins? If the strings are held at the same level and the second balloon is blown up to twice the size of the first balloon, which wins? After each experiment, ask the children why they think the results they observed happened.

Related book

Curious George Gets a Medal by H. A. Rey

■ *Christina Chilcote, New Freedom, PA*

5+

Parachutes

Science skills

Children make their own parachutes and fly them to observe and predict air flow.

Materials

Unbleached muslin fabric, cut into 8" (20 cm) circles
Fabric markers or crayons
Yarn or thin string, cut into 18" (45 cm) pieces, 4 pieces for each parachute
Large-eyed needles
Empty thread spools (may be purchased from craft supply catalogs or stores)

What to do

1. The children use the markers or crayons to decorate their circles of muslin.
2. Thread a piece of string or yarn through a needle. You will need to tie a piece of the string

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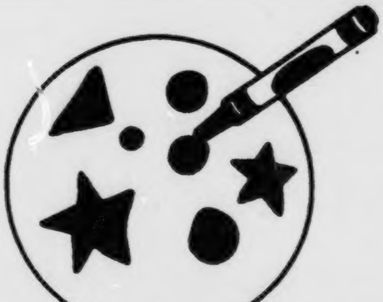

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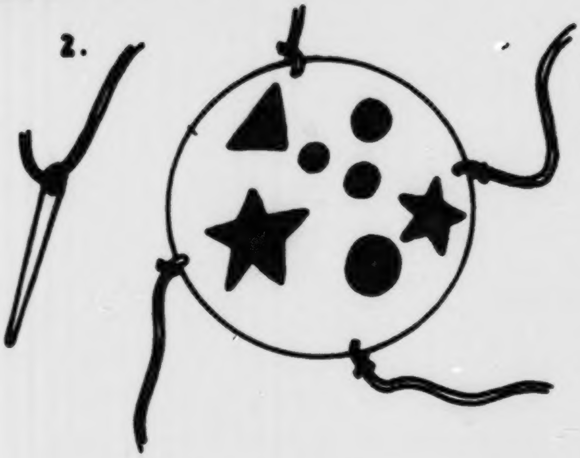

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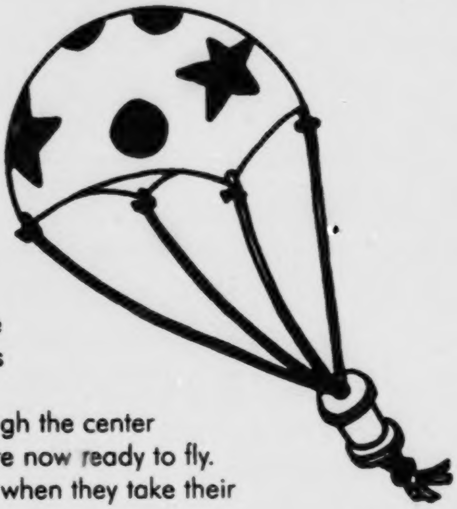


at four places on the muslin circle, equidistant all the way around the circle. Tie the strings to the muslin as close to the ends as possible.

3. Gather the four strings together and feed them through the center of a spool. Tie a knot at the end. Your parachutes are now ready to fly.
4. Have the children speculate about what will happen when they take their parachutes outside and toss them into the air.
5. Go outside and launch them by throwing them into the air. It helps if it is a breezy day. Explain to them that the material is catching the air, holding the parachutes up, then allowing them to drift gently down. (Make sure the children give each other some space so that no one gets hit by a parachute.)
6. You could have races to see which parachute goes the farthest or floats the longest.

More to do

Language: Have the children dictate a sentence about their parachute-flying experience. Sentences can be written on a chart story tablet and read by the whole class, or each child's sentence could be put on a separate piece of paper that she could then illustrate. Bind these pages together and give the collection a title, such as Our High Flying Adventure. Keep the book available in your classroom library.

Related books

Airplanes and Flying Machines illustrated by Donald Grant

Hot-Air Henry by Mary Calhoun

■ *Deborah A. Chaplin, Hot Springs, VA*

5+

Bubble Paint

Science skills

Children learn observation, using all the senses to find air and wind.

Materials

Chalkboard
Pinwheel
Liquid soap
Enamel pan, 9" x 12" (22.5 cm x 30 cm)
Water
The Wind Blew by Pat Hutchins
Balloon
Tissues
Liquid tempera paint in blue, purple or red
Straws
White or manila paper

What to do

1. Read *The Wind Blew.*
2. Ask the children if they can see the wind.
3. Ask how we know about wind if we can't see it. Do the following quick activities to show the children the effects of wind.
4. Wet a small chalkboard and let children blow on it and observe the drying.
5. Blow up a balloon and release it.
6. Blow on a pinwheel.
7. Give each child a tissue to place over her face. Show how to blow and then catch it.
8. Blow bubbles and let the children catch them.
9. Now that they have practiced blowing air, fill the pan with water about an inch (2.5 cm) from the top.
10. Add the liquid soap, about 1 cup (250 ml).
11. Stir in the paint, about 1 cup (250 ml).
12. Give each child a straw and let them blow together into the water.
13. Bubbles will rise above the top of the pan. Gently cover bubbles with the paper.
14. Remove to a place to dry.

More to do

Art: Bubble prints make a great background for under sea pictures: sponge print fish, add leaves, glue sand and shells on the bottom.
More science: Make homemade kites and fly them outdoors.
Movement: Using scarves, the children dance to music.

Related book

Gilberto and the Wind by Marie Hall Ets

Teresa J. Nos, Baltimore, MD

Floating Names

4+

Science skills

Children practice name and letter recognition while learning about the floatation and absorption properties of sponges.

Materials

Alphabet sponges, purchased at a craft store

Water table

What to do

Place a supply of alphabet sponges at the water table. Let the children experiment with the sponges, squeezing them, submerging them, etc. Encourage each child to spell her name with the sponges.

More to do

Sand and water table: Supply other objects at the water table for the children to experiment with. See if the objects float or sink.

Related book

Underwater Alphabet by Jerry Pallotta

Joyce Montag, Slippery Rock, PA

Magic Painting

4+

Science skills

Children observe their names magically disappear after they have written them with water.

Materials

Clear plastic cup for each child
Pitcher of water
Large cement area
Tempera paintbrush for each child
Towels
Sunny day

What to do

1. Tell the children you are going to show them how to "magic paint."
2. Take the children out to a cement area in the sun.
3. Using water and a tempera paintbrush, paint your name on the cement.
4. Wait for a few minutes and watch as the letters disappear like magic.

5. Give each child a cup half filled with water and a tempera brush and let them "magic paint" their name and other letters of the alphabet on the cement.
6. Ask the children if they know what happened to the water; why did it disappear?
   Hint: Keep a pitcher full of water close by for refills; towels are handy for water spilled on clothes.

More to do

More science: Discuss the water cycle with the children and talk about evaporation. Do the following experiment. Write each child's name on her cup. Draw a line about three-quarters of the way up on each child's plastic cup with a permanent marker. Fill each cup to the line. Put some of the cups in a sunny spot in the classroom and some in a closet. Each day, check and see how much water has evaporated from each cup. Compare how much water evaporates in the sun and in the closet. The children can dictate stories about what happened to the water in their cups.

Barbara Saul, Eureka, CA

4+

The Vanishing Z

Science skills

Evaporation makes the Z vanish as the children watch.

Materials

One sheet of dark colored construction paper

Cotton swab

What to do

1. Wet the cotton swab.
2. Using the wet end of the swab, write a large letter Z in the center of the construction paper. Write it lightly so it will evaporate quickly, but make sure it is visible to the children.
3. Then slowly sing the ABC song like this:
   A B C D E F G H I J K L M N O P Q R S T U V W X Y…Where's Z?
4. Hold up the paper and show the children that the Z has vanished. Continue singing: "Z is no longer there, it evaporated in the air."
5. Explain to the children about evaporation.

More to do

More science: Give the children construction paper, cotton swabs and water. Let them draw their own vanishing pictures.

Dotti Enderle, Houston, TX

A-Hunting We Will Go

3+

Science skills
Learning about animal habitats is fun with this game.

Materials
Imaginations

What to do

1. Take the children on an imaginary animal hunt. All should sit in chairs with hands on their knees.
2. As the hunt begins, show them how to slap their knees alternately to simulate a person walking.
3. The children repeat each line after you say it and imitate your hand movements.
4. Chant this animal hunt poem as you slap your knees.

We're going on an animal hunt.
We're going to get some big ones.
I'm not afraid!
Oh, no!
What's that up ahead?
*It's a river.**
Can't go around it. (try other prepositions, too, for example, over or through)
Can't go under it.
We'll have to swim it.

* Suggestions for animal habitats:

Bird	Tree	Monkey	Tree
Lion	Grass	Tiger	Grass
Bear	Cave	Goat	Mountain
Bobcat	Mountain	Snake	River
Fish	River	Octopus	Ocean
Whale	Ocean		

5. Pause after the first verse and ask what kind of animals live in the river. Allow for some discussion and then suggest that the children attempt to catch some of those types of animals as you swim across the river.
6. Make swimming motions and pretend you are picking up various fish and water creatures and putting them in a sack. Wipe your forehead with your hand, shake your arms and begin slapping your knees again as you say the next verse of the poem.
7. Continue as you explore a variety of animal habitats, until you feel you have gathered enough animals or the children's interest begins to wane. Stop your safari in a nice field for

lunch and, over your pretend meal, discuss the animals you have collected during your adventure. Here are some questions you could ask to stimulate conversations. Where did we get the snakes? What lived in the tall grass? What did you find under the rocks in the river?

8. Discuss what you should now do with your collection of animals. Should you put them in a zoo or release them back into the wild? Maybe you can take them home with you in your backpack, or just let them loose to roam around the room.

More to do

Art: Cut out magazine pictures of a variety of animals and use them to make a collage to represent what you found on your animal hunt. ▪ The children can make their own binoculars for use on your jungle safari. Have them decorate two toilet paper rolls in any manner they wish. Avoid using glitter or glued-on materials since these will be used near the eyes and such materials often fall off. Tape or staple the two tubes together to form a pair of binoculars. Punch two holes in the ends and tie on some string or yarn so that the binoculars can be worn around the children's necks.

Language: Make a simplified lift-the-flap book about your jungle adventures. Cut out magazine pictures of jungle animals and glue them to an 8" x 10" (20 cm x 25 cm) piece of paper. Have the children draw a representation of that animal's habitat, such as grass for a snake or a tree for a bird. Cut the picture of the habitat out and create a flap to fit over and hide the animal picture. Affix the cutout to the 8" x 10" paper using glue or a metal brad. Now you can lift the flap to find out which jungle animals live in which habitat. Create a cover and bind the pages together into a book.

Related books and recording

A Creepy Crawly Song Book by Hiawyn Oram
Crocodile Beat by Gail Jorgensen
Hippo Lemonade by Mike Thaler
Into the Jungle by Judy Hindley
Jane Yolen's Old MacDonald Songbook by Jane Yolen
Jungle Walk by Nancy Tafuri
Nanta Lion's Search and Find Adventure by Susan McDonald
Stop That Noise by Paul Geraghty
The Tiger Who Lost His Stripes by Anthony Paul
Who is the Beast? by Keith Baker
"The Animal's Lullaby" by Tom Paxton

Virginia Jean Herrod, Columbia, SC

3+

Mr. & Mrs. Mouse

Science skills

A mouse family teaches children to observe and ask questions about hibernation and nature.

Animals

Materials

Old aquarium, ¼ full of bedding and cedar chips
(clean every four weeks)
Some type of wire mesh lid
Water bottle
Mouse food purchased at pet store
Cardboard tubes (toilet paper, paper towel)
Male and female mouse, pet store purchased

What to do

1. Prepare cage and add mice. Remember, tolerance is the name of the game for adults when mice are in the classroom, because with patience, a wonderful experience takes place.
2. This project is perfect for the winter season! Children often question what happens to animals in the cold and snow. These mice will provide your classroom with a first-hand visual experience of the answer. The more tubes you put in the cage, the more tunnels the mice create and the more tearing they do. Their homes become very elaborate.
3. You seldom see them work, just like the burrowing animals outside in the winter. But the children witness the creative structures that are built and how animals outside protect themselves from the elements.

More to do

More science: If you are lucky enough for Mr. and Mrs. Mouse to become parents, your children will witness a very supportive, caring and loving animal mother. Mr. Mouse should be removed from the cage at this time. Mrs. Mouse needs a clean cage and lots of cardboard to keep her babies hidden and secluded in the tunnels and bedding. She cares for them constantly. As the babies get older the mother starts revealing them slowly to the outside world. What an exciting learning time for the children! Consult your pet store about taking the mice and babies back. It is a completion to your unit that the children will accept.

Related book

The *Frederick* books by Leo Lionni

Diane L. Shatto, Kansas City, MO

Animal Sound Matching

3+

Science skills

The children use auditory and visual cues to identify animals.

Materials

Tape recorder
Cassette tape
Pictures of animals

What to do

1. Make or purchase a tape with animal sounds.
2. Play the tape for the children.
3. Let them identify animals making the sounds.
4. Then let the children make the animal sounds for the tape as the teacher holds up a picture of each animal.
5. Encourage the children to make up a story about animals, adding in animal sounds when needed. Put it on tape.

Related books and recordings

Early Morning in the Barn by Nancy Tafuri
Let's Go Home, Little Bear by Martin Waddell and Barbara Firth
"I Bought Me a Rooster"
"Old MacDonald Had a Farm"

■ *Sherri Scott, Hermitage, TN*

3+

Hibernating Bears

Science skills

Children learn about hibernation and nature and use fine motor skills.

Materials

Video about bears and hibernation
Empty boxes
Leaves
Toy teddy bears
Fake moss
Glue

What to do

1. During circle time discuss animals such as bears that become lethargic and hibernate during the cold winter months.
2. If possible, show the children a video on hibernating animals.
3. Have each child bring her favorite teddy bear from home, and supply each child with an empty box.
4. Tell the children they will be making homes for their bears to rest in for the winter.
5. Each child uses glue, fake moss and leaves to decorate their empty box and turn it into a cave.
6. Sing the Hibernating Bear song (below).

Original poem

Hibernating Bear (sing to the tune of Three Blind Mice)
Hibernating bear, hibernating bear.
Winter's drawing near, winter's drawing near.
Fill up your belly with something warm,
Then curl up and sleep all safe from the storm.
Hibernating bear, hibernating bear.

Related book
We're Going on a Bear Hunt by Michael Rosen

Lisa M. Lang, Parkersburg, WV

Peek-a-Boo Owl Puppets

3+

Science skills
Using an owl puppet they made themselves, children learn about the owl's habitat.

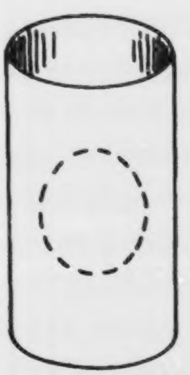
Materials

Empty toilet tissue tubes, one for each child
Glue
White dot stickers, about ¾" (19 mm) in diameter
Green tissue paper squares
Scissors

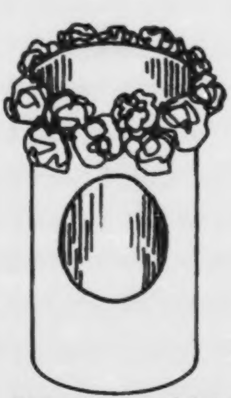
What to do

1. Draw an oval shape on one side of the toilet tissue tube, about 1 inch (2.5 cm) in diameter. Draw it near the center of the tube.
2. Poke a hole with scissors into the oval for a starting point. Let the children finish cutting out the oval. (Pre-cut these for younger children.)
3. Roll the tissue paper squares into balls and glue them onto the top half of the tube.
4. On the white circle sticker dots, draw an owl.
5. Place the owl sticker on your pointer fingernail, then stick your finger up into the tube and out of the oval hole. Your owl is now perching in his tree home.
6. Use these puppets while you sing the following song:

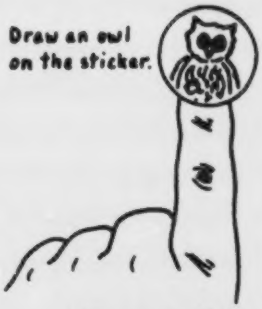
   Little Owl (sing to the tune of "Frère Jacques")
   Little owl, little owl,
   In the tree, in the tree.
   Whoo-oo are you looking for?
   Whoo-oo are you looking for?
   Is it me? Is it me?



Draw and cut oval hole out of toilet tissue tube.

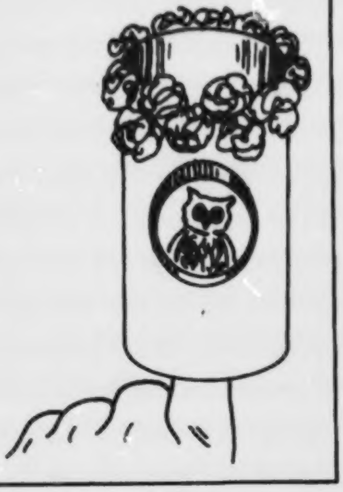


Decorate top of tube with tissue paper balls.



Draw an owl on the sticker.

Place owl sticker on fingernail.



Related books
Owl at Home by Arnold Lobel
Owl Babies by Martin Waddell
Owl Moon by Jane Yolen

Valerie Chellew, Marshfield, WI

3+

Animal Pieces

Science skills
Children practice observation and classification skills as they match parts to wholes.

Materials
Line drawings of parts of animals: beaks, claws, tail, neck, legs, mouths, eyes
Pictures of whole animals
Glue
Cardboard pieces, 4" x 6" (10 cm x 15 cm)

What to do

1. Make two sets of cards. The first set is made by gluing drawings of parts of animals onto the cardboard. The second set is made by gluing pictures of whole animals onto cardboard.
2. The children sit on the carpet, and you pass out the animal piece cards, one per child.
3. Place whole animal cards on a chalkboard rail or wall chart pockets.
4. Children take turns matching the animal parts with the whole animal pictures.

Susan R. Forbes, Holly Hill, FL

3+

Putting Life in Order

Science skills
Children observe the life cycle of frogs first-hand and practice classification and ordering skills.

Materials
Fish net, from local pet store
Plastic peanut butter jar, thoroughly cleaned and rinsed
3 or 4 milk jugs, gallon size (4 L), or similar containers
One five-gallon (20-liter) fish tank (or larger)
Several tadpoles acquired from a local pond or stream
Poster board
Markers

What to do

1. If you can, go on a field trip to find some tadpoles (for instructions, see More to do, below). If not, then visit a local pond or stream yourself and collect some tadpoles.
2. Upon returning to your classroom, place your newly acquired tadpoles in your fish tank. Heating it is not necessary, as the tadpoles are at home in cold water. Add a few leaves, twigs or rocks taken from the same pond as the tadpoles. (Using plants or rocks acquired elsewhere may introduce an unfamiliar and therefore deadly form of bacteria into the tadpoles' environment.)
3. Make a simple graph on your poster board. There should be four columns, one for each stage of a tadpole's life. The headings should read: 1. Eggs, 2. Tadpole Stage One, 3. Tadpole Stage Two, 4. Frog.
4. As your tadpoles grow and develop, keep track of their progress by having the children draw pictures of their changing development. Attach the pictures to the poster board graph under the appropriate heading. If you were not able to collect any frog eggs, you will need to supply a picture of the eggs. If possible, take photos of the tadpoles as they grow and post them on the graph also. You can feed your tadpoles a combination of live weeds, grasses (from the same pond where you found the tadpoles) or you can get pre-mixed tadpole food at your local pet store.
5. Emphasize that the development of the tadpoles always happens in the same order. Even though the tadpoles may differ in size and appearance, they go through the developmental stages in the same order. Review the growth graph daily.
6. After the children seem to fully understand the various stages of a tadpole's growth, make a small set of pictures for each child. The cards should depict the same stages of development as the graph.
7. Ask each child to place the pictures in the correct order. They can then compare their cards to the graph to check their work.
8. After your tadpoles have matured into frogs, discuss what you should do with them. Should you keep them as classroom pets or return them to their own environment? Have the children vote on what you should do. If you decide to return the tadpoles to the wild, plan another trip to their original pond or stream and have a "Letting Go" celebration.

More to do

Games: Have Frog Jumping races. The children will enjoy hopping from start to finish. Remind them to move like the frogs. • Play a good old fashioned game of Leap Frog. Many of the children in your classroom will have no prior knowledge of this fun and physically demanding game. Remind the children to be careful while hopping over each other's heads.

Language: Make a book about the stages of your tadpoles' development. Ask the children to draw pictures and write or dictate short descriptive sentences about each stage of development. Bind the pages together into a book. Invite the children to brainstorm a title for the story. In our classroom we finally settled on "The Story of Wiggly and How He Grew." We limited ourselves to writing about one specific tadpole.

More science: If permitted, take the children on a field trip to catch the tadpoles. Check the pond or stream before taking the children to make sure tadpoles are actually there. Then provide some children with a small net (like the ones you find at a pet store). Carefully supervise as the children attempt to scoop up the tadpoles. Don't keep too many. Five or eight tadpoles should sufficiently support this activity. If you overload your tank, you will have problems keeping the tank sufficiently clean. Also, collect a few frog eggs if you can. Although these will probably not hatch, they are useful for helping children successfully order the life of a frog. Put the tadpoles in a clean and thoroughly rinsed peanut butter jar. At the same time, collect three or four gallons of water from the same area as the tadpoles. Be sure to scoop up some dirt, leaves and mud from the bottom. Your tadpoles will find food there.

Related books

An Extraordinary Egg by Leo Lionni
Felix and the 400 Frogs by Jon Buller and S. Schade
Frog on His Own by Mercer Mayer
Frogs and Toads and Tadpoles, Too by Alan Fowler
From Tadpole to Frog by Wendy Pfeffer
Jump, Frog, Jump! by Robert Kalan
Tadpole and Frog by Christine Back and Barrie Watts

Virginia Jean Herrod, Columbia, SC

3+

Snowshoe Hare's Surprise

Science skills

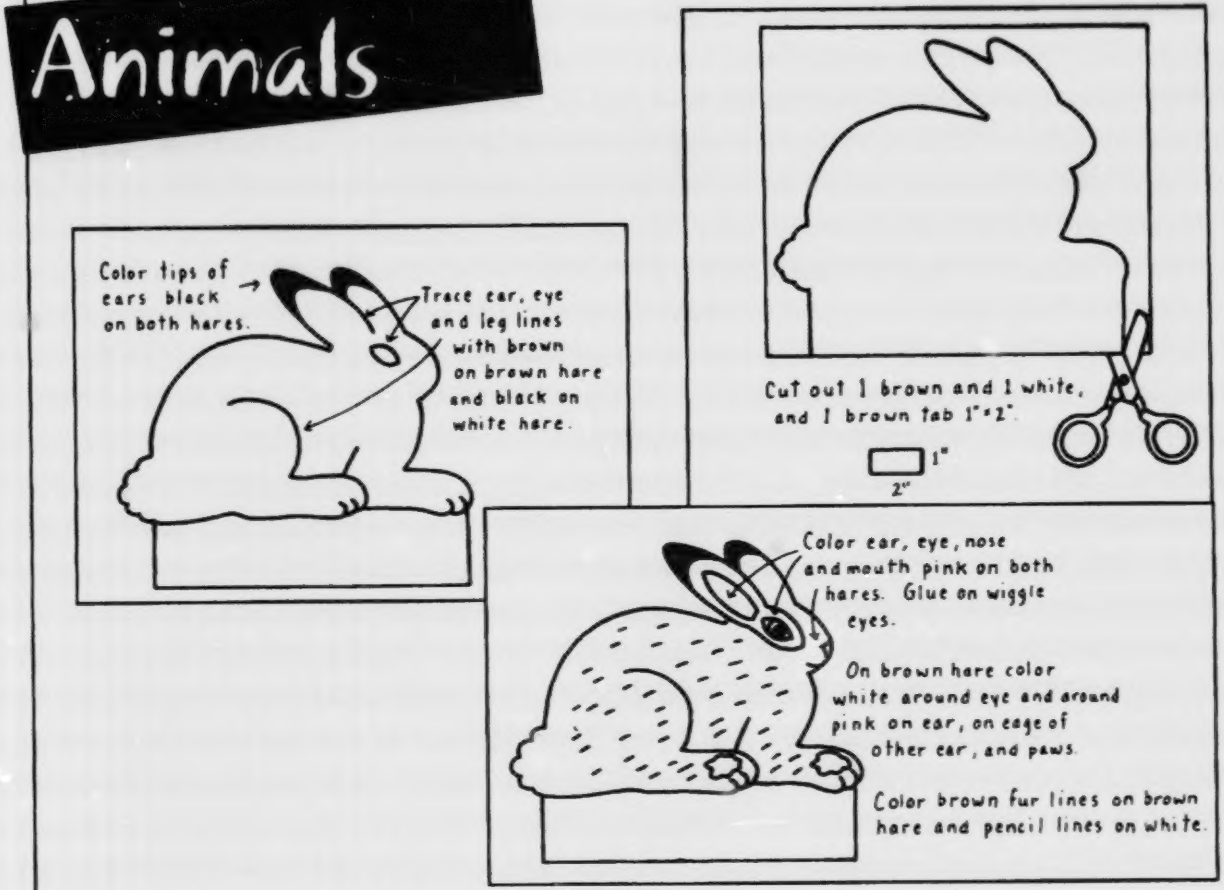
Children observe the surprising color change of a snowshoe hare in winter and spring.

Materials

Tan construction paper or large brown grocery bags
Pattern of sitting snowshoe hare
Pencil
Scissors
12 mm wiggle eyes
White drawing or construction paper
Pink, brown and black markers
Scotch tape or small amount of white glue
White crayon

What to do

1. Find the area on a globe where the snowshoe hare lives. It can be found in Alaska, Canada and the Northern United States and also southward to the Great Lakes, the Rockies and the Appalachians.
2. Compare the summer food and winter food of the snowshoe hare.
3. Use the word "camouflage" in reference to the snowshoe hare. How are other animals camouflaged with their environment?
4. Engage the children's creativity and bring the snowshoe hare to life by making puppets.
5. Trace hare pattern on brown paper. Trace the same pattern on white paper. Cut out the brown and white hares. Cut a brown tab 2" (5 cm) long by 1" (2.5 cm) wide.
6. Color tips of ears black on both hares.
7. Trace legs and ear line between ears. Use brown marker on brown hare, black on white hare.
8. Color nose, mouth and one ear pink on both brown and white hare.
9. Draw eye with brown marker, color inside with pink marker then glue on wiggle eye in center on both brown hare and white hare.


Color tips of ears black on both hares.
Trace ear, eye and leg lines with brown on brown hare and black on white hare.
Cut out 1 brown and 1 white, and 1 brown tab 1"×2".
1"
2"
Color ear, eye, nose and mouth pink on both hares. Glue on wiggle eyes.
On brown hare color white around eye and around pink on ear, on edge of other ear, and paws.
Color brown fur lines on brown hare and pencil lines on white.

10. Color with white crayon on brown hare only. Color around pink on ear, edge of other ear, around marker line of eye and paws.
11. Color brown fur lines on brown hare; pencil fur lines on white hare.
12. Add pencil whiskers on both brown and white hares.
13. Glue tab at face area, under brown hare, on top of white hare on reverse side. Fold and cut notch if desired.
14. Fold bottom flaps under so they overlap, the brown hare faces forward.
15. Then when brown hare grows longer white fur and changes to all white for winter, flip white hare forward. Now bottom flap will face outward on both hares. White flap will depict snow and the ground and hare will still stand up. When it is spring again, flip brown hare forward. The change of color of snowshoe hare is the surprise.

More to do

Art: Let children form a flat or three-dimensional snowshoe hare out of clay (modeling clay) or gray clay that can be glazed and fired, or out of playdough.

Dramatic play: Dramatize the zigzag hopping, the freezing like a statue and other traits of the snowshoe hare. Other children could be a fox, lynx, mountain goat, owl, golden eagle, plover and other arctic animals or birds. The snowshoe hare should have different reactions to each depending on whether the animal or bird is friendly or a predator.

BEST COPY AVAILABLE

More science: Using pictures from books or magazines, compare the shape and size and color of cottontail rabbits, jack rabbits, lop-eared rabbits, European rabbits, Arctic hares, jumping hares, pygmy rabbits, Vienna blue rabbits and snowshoe hares. What kind of rabbit do you have in your area? • Discuss animals that hibernate. Which animals sleep part of the winter? The snowshoe hare does not hibernate at all. • Compare the feet of animals and their tracks left in the snow. You can play a matching game to match tracks with pictures of animals, perhaps using a flannel board. The large wide feet of the snowshoe hare give it its name.

Original song/poem

The Snowshoe Hare

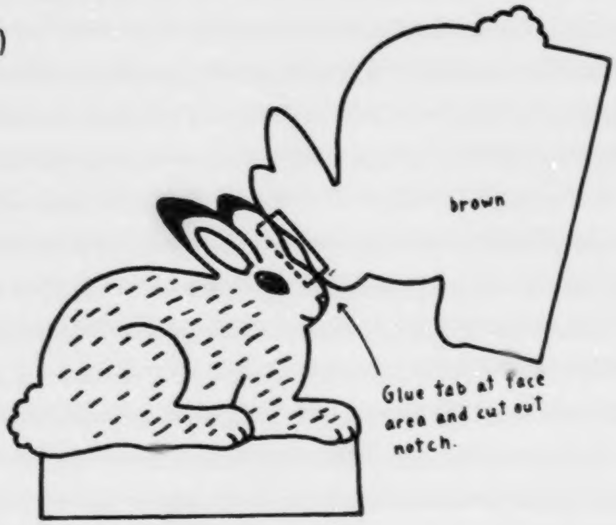
(sing to the tune of "The Farmer in the Dell")

The snowshoe hare is brown.
That is his summer coat.
He nibbles on some grass and leaves,
And then he eats some fruit.

His white fur starts to grow
Thicker and longer in the fall,
Until you cannot see the brown
Anywhere at all.

The tips of his ears are black,
And the snow falls all around.
He looks like a white statue
That doesn't make a sound.

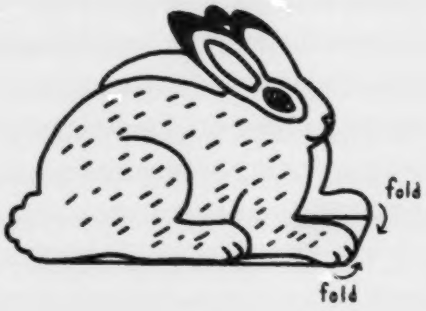
His favorite time is night
When danger is not near.
Then he can eat and jump and dance
Without any fear.


brown
Glue tab at face area and cut out notch.

Little Bunny

I see a little bunny
In the garden near.
And I walk very quietly
So that he won't hear.

But when I'm almost to him
He looks and hops away.
I wish he would be my pet.
Maybe he'll be back some day.



Related book

Summer Coat, Winter Coat: The Story of the Snowshoe Hare by Doe Boyle

■ Mary Brehrn, Aurora, OH

The Little Red Barn

3+

Science skills

The children learn about the farm life of animals through a field trip and their own dramatic play.

Materials

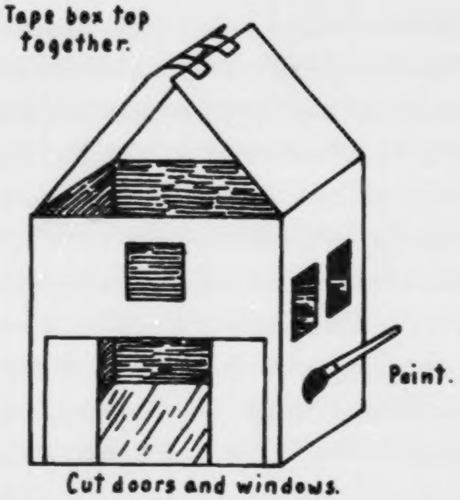
Poster board

Small plastic farm animals and other toy farm pieces

Farm-style dress-up clothes

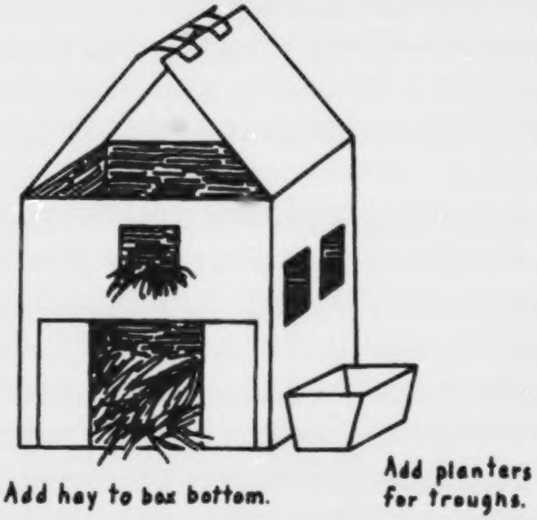
What to do

1. Take a trip to a farm. Talk with a farmer and/or schedule a farm animal visit.
2. Make a "What Happens in a Barn?" poster. Ask the children the question after taking a field trip to a farm. Record their answers.
3. Add small farm animals, toy barns, tractors, trucks, etc. to the block area and add farming clothing to the dramatic play area so that the children can imaginatively play out the barn information they have learned.


Tape box top together.
Paint.
Cut doors and windows.

More to do

Dramatic play: The teacher holds the box top flaps up and tapes them together to resemble a barn roof. Keep a slight gap at the peak of the roof to let lighting in. Cut front and back doors if desired. The doors can be cut to open and shut or can be completely cut out so that only doorways remain. Windows can be cut the same way. Place the box on drop cloths and let the children paint the box. Teachers can add defining touches if desired but this should be as child-directed as possible. Allow the box to dry for several hours. After the box is dry, add a bale of hay or straw to box bottom to create the flooring inside of a barn. Add planters as animal troughs for stuffed animals.


Add hay to box bottom.
Add planters for troughs.

Related books and song

E-I-E-I-O by Gus Clarke
Inside a Barn in the Country by Alyssa Satin Cappucilli
No Moon, No Milk by Chris Babcock
Pet the Baby Animals by Lucinda McQueen
"Old MacDonald"

Tina R. Woehler, Flower Mound, TX

3+ Sorting Farm, Zoo and Woods Animals

Science skills

In learning about animal habitats, children practice sorting and classification skills.

Materials

Small plastic animal figures
Small cardboard boxes with pictures pasted in the bottom and word labels attached: Barn, farm, cage, zoo, trees, woods

What to do

After lessons in which you introduce animals that live on a farm, in the zoo or in the woods, arrange this individual activity to reinforce the concepts. Put the various animals in a basket and let the children sort them according to where they live.

Alternative: Use laminated pictures of animals and compartments of a muffin tin as habitats.

Mary Jo Shannon, Roanoke, VA

3+ Warm Whales

Science skills

In a fun experiment, children use all their senses to observe and predict the outcome.

Materials

Favorite book about whales
Cold water
Solid cooking shortening
Boot or mitten with removable insulated liner
2 medium-size bowls
Paper towels

What to do

1. At circle time, read your favorite book about whales.

2. Discuss how some whales live in very cold water. How do they stay warm? How do people stay warm?
3. Explain that people can wear extra layers of clothing. Show the boot or mitten and remove the liner. Discuss how this extra layer keeps people warm.
4. Since whales don't wear clothes, how do they stay warm in the very cold water?
5. Here's a fun way to demonstrate how they do it: Fill 2 bowls three-quarters full with cold water. Ask a child to place one hand in each of the bowls. How does it feel? Both hands are cold. Now the teacher completely covers one of the child's hands with shortening. Place this hand in one of the bowls and place the other hand in the other bowl. Which hand feels cold? The hand covered with shortening is protected from the cold. Whales are also protected from the cold with a layer of fat called "blubber." Using paper towels, clean off the child's shortening-covered hand.

More to do

Home living: Have many types of clothing available in this center so the children can practice dressing in layers: T-shirts, sweaters, sweatshirts, boots, socks, mittens, etc.
More science: Fill a clear plastic soda container, 12 to 20 oz. (375 ml to 625 ml), label removed, half full of water. Add a few drops of blue food coloring. Add baby oil to fill the container to about one inch (2.5 cm) from the top. Screw on the cover tightly and shake to mix. Holding the bottle on its side, rock it gently to make "waves" appear.

Original poem

Blubber

Here's a tale of a whale,
Who was never cold!
Not a bit, not even a little chilly,
So I'm told!

To stay warm, people wear clothes,
And can even try rubber!
But whales wear a wonderful thing
Called blubber!

Related books

Animals Should Definitely Not Wear Clothing by Judi Barrett
Going on a Whale Watch by Bruce McMillan
Whales by Gail Gibbons

Kathy A. Lone, Sioux Falls, SD

3+

Hidden Animals

Science skills
Children observe first-hand how animals protect themselves from predators in nature.

Materials
Sand
Bucket
Red and beige construction paper

What to do

1. Ahead of time, fill a bucket or bin with sand. Cut about 30 half-inch (13 mm) squares from the construction paper, 15 of each color.
2. Talk with the children about how in nature, plants and animals blend in with their environment. This is their protection from predators.
3. Show the children the red and beige squares. Count them so the children see that there is an equal number of each. Then mix the squares up in the sand.
4. Set a timer for one minute. Children sift through the sand and try to find the red and beige squares.
5. When the timer goes off, count to see how many of each color were found.
6. Relate the results back to the concept of plants and animals blending in with their environment. To reinforce this point, play the game again, this time telling the children to pretend that they are hungry lions, and that the squares are little mice that lions love to eat. Note that the "beige mice" are the ones who more often escape the hungry lions!
7. As an option, substitute white packing material for sand and use red and white paper.

More to do

Art: Draw animals on colored construction paper using the same color marker and then a different color marker. Note that the differently colored animals are easier to see.

More science: Hide plastic animals in the classroom by setting them against backgrounds that match or blend in with their colors. They're camouflaged!

Related book

The Mixed-Up Chameleon by Eric Carle

Suzanne Pearson, Winchester, VA

Learning About the Farm

3+

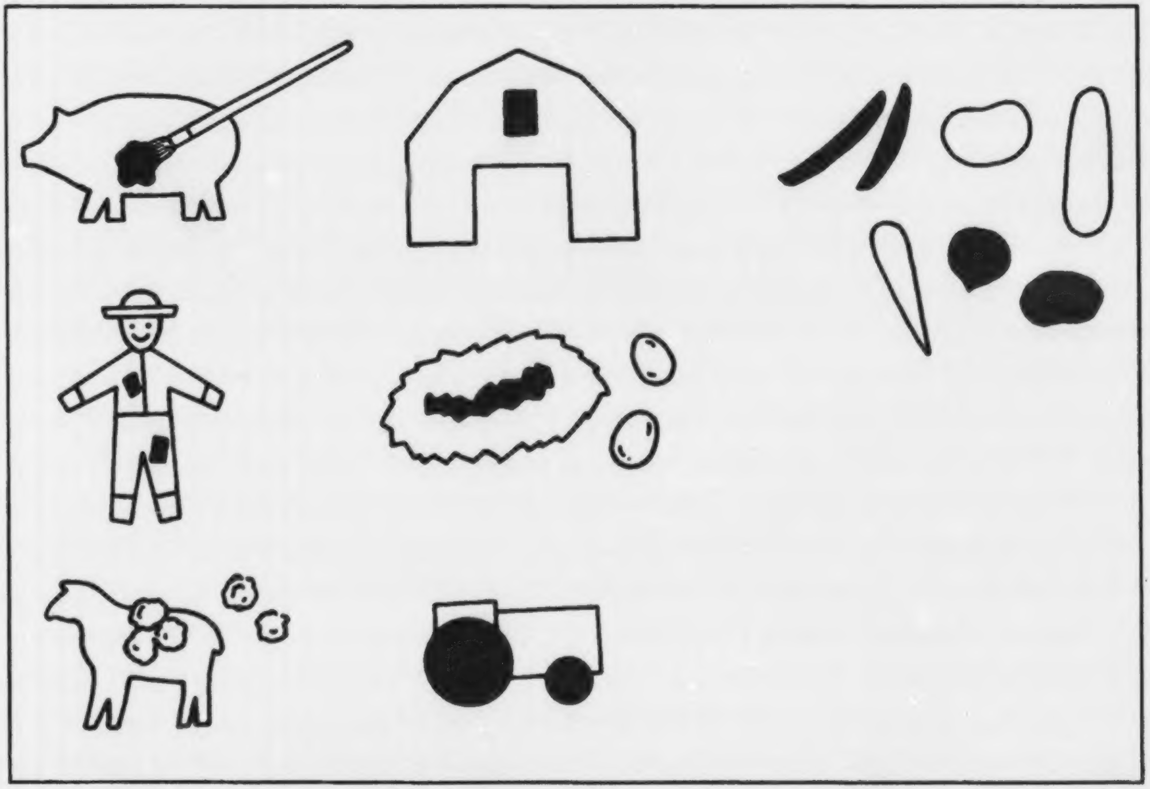
Science skills
With fine motor skills and encouragement to ask questions about nature, children create farm scenes.

Materials

Construction paper, wide variety of colors
Glue or paste
Farm animal stickers
Red and black felt
Yellow crayons
Cotton balls
Brown fingerpaint or tempera paint
Short and long pieces of straw
Black markers or crayons

What to do

1. Talk with the children about what living on a farm might be like and how it would differ from living in a city. You can also talk about driving farm equipment instead of cars.



2. Talk about where the food we buy at the store comes from and how it is grown. You can discuss the different types of weather farmers need to have their crops grow and when they might be harvested.
3. On day one of your farm discussion, cut large pig shapes from pink construction paper and let each child paint brown mud on their pig. Give each child a sheet of manila construction paper with a cow drawn on it. Let the children cut or tear black and white squares or spots from construction paper and paste them onto the cows.
4. On day two, give each child a piece of manila construction paper with a scarecrow drawn on it, or let them draw their own scarecrows. Give them precut clothes (hat, shirt, pants) cut from various colors of construction paper to paste on the scarecrow, or let them cut or tear their own version of clothes to paste on. Glue pieces of straw to the ends of arms and legs. As an option, tear small pieces of paper to paste on clothes as patches.
5. On day three, draw lambs on white construction paper, and give one to each child. Cover the lamb with glue and give each child cotton balls to pull apart and paste on the lamb. Use a black marker or crayon to add the face.
6. On day four, help the children cut large barns from red construction paper. Each child can paste her barn onto a piece of manila paper and then add stickers of different farm animals. The animals can be in or out of the barn. Perhaps she'll want to glue some or all of the previous day's projects onto the scene.
7. On day five, encourage the children to draw large nests on manila paper. Give them white or brown oval shapes for eggs to paste in the nest, or let the children cut out or tear out their own eggs. Count out how many eggs are in each nest and write the number under the nest.
8. On day six, cut one large and one small red rectangle and one large and one small black circle for each child from construction paper. Paste the pieces together on a sheet of manila paper to make a tractor. Let the children also take turns putting together similar shapes from felt to make tractors. Small groups of two to three children can work together.
9. On day seven, cut out vegetables from construction paper, such as green beans, green pea pods, red tomatoes, yellow ears of corn. Give each child one of each vegetable to make a "sunshine garden." Let each child paint the bottom area of a piece of manila paper brown for soil. Paste the vegetables over the soil after the paint dries. Encourage the children to decorate their pictures further, perhaps adding a big bright sunshine or some clouds, grass or flowers.
10. On day eight, cut out more vegetables from construction paper, like orange carrots, brown potatoes, brown onions, red radishes. Give each child one of each vegetable to make an underground garden. Cover a piece of manila paper with brown paint. When it dries, the children can paste their vegetables on it. Alternatively, children could paste these underground vegetables onto their pictures from the day before.

More to do

Math: Count the eggs each child put in his nest. Compare each nest to see which has more or fewer eggs.

More science: Plant bean seeds and watch them grow in your classroom.

Movement: For a gross motor activity, pretend to be farm cats. Stretch, slink, paw the ground, crawl, arch your backs up and down, and go to sleep. • Pretend to be scarecrows bending and swaying in the wind. Talk about why farmers use scarecrows.

Related books and rhymes

Big Bird's Farm by CTW (Sesame Street Staff)
Big Red Barn by Margaret Wise Brown
Eating the Alphabet: Fruits and Vegetables from A to Z by Lois Ehlert
Going to Sleep on the Farm by Wendy Cheyette Lewison
I'm Going to Be a Farmer by Edith Kunhardt
Jack's Garden by Henry Cole
Mary Had a Little Lamb by Sara Josepha Hale
Mouse and Mole and the Year-Round Garden by Doug Cushman
Old MacDonald Had a Farm illustrated by Pam Adams
One Cow Moo Moo by David Bennett
Rockabye Farm by Diane Johnston Hamm
Spot Goes to the Farm by Eric Hill
The Supermarket by Gail Gibbons
Nursery Rhymes:
"Baa Baa Black Sheep"
"Farmer in the Dell"
"Little Boy Blue"
"Mary Had a Little Lamb"
"Old MacDonald Had a Farm"

■ *Diane K. Weiss, Fairfax, VA*

A Bully in the Tank

3+

Science skills

Children make observations and predictions; working together builds their sense of community.

Materials

Beta fish
4 to 6 feeder goldfish
2 ½ gallon (10 L) fish tank that can be divided with glass dividers

What to do

1. Talk to the children about what it means to be a bully. Ask the children what usually happens to bullies.
2. Show them the two different types of fish. Explain that Beta fish are known to be aggressive just like bullies, and explain that the smaller goldfish are kind to each other.
3. Set up the tank on a table in front of the group, with the tank dividers handy.
4. Discuss with the children whether they think the teacher should put all of the fish together.
5. If children reply "yes," then remind them that the Beta fish can be mean.
6. If children insist on putting all the fish together, go ahead and put them all together.
7. Encourage the children to count the fish and draw a picture of each fish on a large piece of paper. Hang up the paper so that as the days go by the children can map the progress of the goldfish. Each day, or as things start to happen again, bring the tank over and ask the children

what should be done about the Beta fish being a bully.

8. When children come up with ideas to separate or punish the Beta fish, show them the tank divider. Then explain that it would keep the fish separate but they would still be able to see each other so the mean fish would not get lonely.
9. Separate the fish with the divider. The children may then be interested in talking about how people who are bullies should be treated, as well as what they can do in school or at home when someone is a bully.
10. The teacher can then use the saying: "get along" (with hands held together) or "get along" (with hand doing a brushing motion to show that the person should leave) to remind the children of their experience with the fish.

Melissa Browning, Milwaukee, WI

3+

An Animal in Your Hand

Science skills

The children are encouraged to make observations about animals and to use fine motor skills.

Materials

Paper lunch bags
Wiggle eyes
Construction paper
Markers
Scotch tape
Pipe cleaners
Tissue paper
Scissors
Glue

What to do

1. Read a book about a particular animal or discuss the animal of the week.
2. Each child may decide on an animal puppet to make (he may decide to make the animal from the story you read or something else).
3. Ask each child to name materials they might need to make the puppet (keeping in mind the different body parts).
4. Assist the children in making their puppets: have ready pictures of the particular animal, and answer questions about the shape, size and location of the animal's body parts.

More to do

Dramatic play: Use the puppets to make a puppet show. • Use the puppets for problem solving, to explore emotions and to boost imagination.

Field trip: Go on a nature walk and try to observe real animals.

Special days: On a certain day, children can bring in their pets and talk about how they are different (appearance, food they eat, where they sleep, what they do) and what is the same about all the pets.

Billie Miteva, Pomona, NJ

Animals

Born or Hatched?

3+

Science skills

Children develop observation skills and learn to classify animals.

Materials

Index cards, 3" x 5" (7.5 cm x 12.5 cm)
Pictures of birds, snakes, lizards, dinosaurs, puppies, kittens, mice, horses, etc.
Two bags, one labeled with a picture of an egg that says "Hatched" and one with a picture of a baby that says "Born"

What to do

1. Draw or find pictures of animals to be classified.
2. Glue the pictures to the index cards.
3. Cover the cards with clear contact or laminate.
4. Use clear contact to attach the picture of an egg to one bag and the picture of the baby to the other bag. Print the words "Born" and "Hatched" on the appropriate bag.
5. The children take the top card and classify. This activity and discussion about each card should be done as a group. Then the children can repeat it on their own as a reinforcement activity.

Phyllis Esch, Export, PA

Earthlings A to Z

3+

Science skills

Children learn about the animals in alphabetical order.

Materials

Globe
Library books on animals

What to do

1. Set aside one day of the week to be "Meet an Earthling" day, then introduce a different animal each week.
2. Use the following list of "earthlings," or make your own:

A-ant
B-bear
I-iguana
J-jaguar
Q-quail
R-rooster

C-cat
D-donkey
E-elephant
F-fish
G-gorilla
H-horse
K-kangaroo
L-lion
M-mouse
N-newt
O-octopus
P-polar bear
S-seal
T-tiger
U-unicorn
V-vulture
W-whale
X-is in ox
Y-yak
Z-zebra

3. Explain to the children that everyone who lives on the earth is an earthling. We all share the earth and need to learn about it and care for one another. Read a story about an earthling.
4. On the globe, locate where the different earthlings live.

More to do

Alphabet: This activity lends itself to a study or refresher on the letters of the alphabet.

Art: Draw, paint or look in books and magazines for pictures of the earthlings. Hang them up in the room.

Field trip: Take a trip to the zoo. Learn about people who care for animals such as veterinarians, zookeepers, farmers, etc. Invite one of them to come and speak with the children.

Related books

Biggest, Strongest, Fastest by Steve Jenkins
Dear Children of the Earth by Schim Schimmel
I Love You, Mouse by John Graham
Polar Bear, Polar Bear, What Do You Hear? by Bill Martin, Jr.
Quick as a Cricket by Audrey Wood

■ *Susan Rinas, Parma, OH*

3+

Whose Baby?

Science skills

The children learn classification and visual skills in this matching game.

Materials

Magazine pictures of both young and mature animals
Oaktag cards, 6" x 8" (15 cm x 20 cm)
Scissors
Glue
Are You My Mother? by P. D. Eastman

What to do

1. Cut out the pictures of young and mature animals. Glue them on to oaktag cards.
2. The children sit in a circle on the floor; give each child a card.
3. The teacher holds a card first and asks either "Who has my baby?" or "Who has my

mother/father?". The child with the correct card brings it up to the teacher to make a match.

4. The game proceeds round-robin fashion with each initiating child asking either "Who has my baby?" or "Who has my mother/father?".
5. Read *Are You My Mother?*.

More to do

More science: Set out the cards on a table. Children may work at matching the cards during center time.

Related book

Animals Born Alive and Well by Ruth Heller

■ *Susan R. Forbes, Holly Hill, FL*

Pet Prints

3+

Science skills

In this delightful game, children hone their observation skills, and compare and contrast similar items.

Materials

Ink pads or paint and a pan
Paper
Photos of animals or similar pictures from magazines
Contact paper

What to do

1. Send the children home with an ink pad or paint and a pan and four pieces of paper. Attach a note asking parents to assist their child in making four paw prints of their pet or a friend or neighbor's pet. Also request that they send in a photo of their pet.
2. Collect the the paw prints and cover with contact paper for durability. Match the photos to the prints and mark the backs of the photos with stickers or colored shapes similar to those on the paw prints. This will enable the children to check their answers at a self-directed center.
3. At a center or during circle time bring out several of the paw prints and spread them out for all to see. Discuss their differences and similarities, sizes and shapes, etc. Begin to guess what kinds of animals would leave such footprints.
4. One by one, show the children's photos that the children brought in and begin to match the prints to the photos.
5. Put the pet prints and the matching photos on a table or leave them on the carpet during free play so the children can use them as a self-directed activity.
6. Children can also make prints of their own bare feet with paint. When the footprints are dry and covered with contact paper, the children try to find the prints that match their own feet.

Related book
The Snowy Day by Ezra Jack Keats

Ann Gudowski, Johnstown, PA

3+

5 Cave Critters

Science skills
Through a flannel board story, children become interested in the environment and nature.

Materials

Five Cave Critters flannel board story
Flannel board pieces (created in advance): crawfish, blind cave fish, a bat, red spotted salamander, a cave cricket, a large cave shape that all of the creatures will fit into
Large flannel board

What to do

1. Prepare all of your flannel board pieces, perhaps even laminate them.
2. It is really fun to start your circle time with this flannel board story:

Five Cave Critters
When walking through an old, damp cave,
I knew that I must be extremely brave.
For I was told that I would see,
Five different cave creatures right before me.

Water was trickling at my feet.
A crawfish snapped, it was really neat.
Next, I would see, down by the pool,
A blind cave fish, an orange jewel.

I heard a squeak and up I looked,
A baby bat in the rock was hooked.
Down on the floor, running through my light,
Was a red spotted salamander, twinkling bright.

As I walked deeper into the cave,
A cave cricket hopped, but I was sooo brave.
Five unique creatures, I was lucky to see,
Maybe there are more, "Want to come with me?"

3. Copy the above story onto index cards so that it is easy to handle and not as obvious as a large sheet of paper during circle time.
4. Next, line up all the flannel board objects in the order in which you plan to use them. This helps to keep everything running smoothly.

5. Quickly prepare the children for a great surprise. Don't share anything about what they will be learning until after the story.
6. Start the story immediately. Be very enthusiastic!
7. After the story is completed ask the children open-ended questions to encourage their participation. This is an excellent way for children to share their thoughts and interests.
8. Encourage the children to handle and look at all the flannel board pieces. This gives them further opportunity to ask questions.

More to do

Art: Offer the children a variety of activities. Two favorites are bat ears and toilet paper tube bats. Make the bat ears by first drawing two bat's ears (which look like fat tear drops), making a head band to fit the child and then attaching the ears with the points facing out to the sides. The children can make the toilet paper tube bats by painting their toilet paper tubes a dark color (black, gray or brown). Allow them to dry, and then the children can cut out wings from tissue paper in a dark color. You can explain that the paper is fragile just like the bat wings. Then cut out a face, draw its features and attach both the wings and the face with white glue. Finally, hang the bats from the ceiling in your classroom.

Dramatic play: Turn the dramatic play center into a giant cave. Use a dark colored blanket to cover the shelves in which you create "the cave." Keep a crate of important items you must never forget when cave exploring: flashlights, hard harts, binoculars, magnifying glasses, notepads and pencils for noting or drawing about all the lovely things you will see. Create a cave atmosphere with plastic creatures and flannel ponds, etc. Add small fossils and magnifying glasses, informative books (with lots of great pictures) from the local library, flash cards, pamphlets on local caves and other hands-on materials.

Related books

Beast Feast by Douglas Florian
Stellaluna by Janell Cannon
Under the Ground by Gallimond Jeunesse

Debora L. Stuck, Nixa, MO

Animal Matching Game

3+

Science skills

Children develop memory by playing matching card games.

Materials

2" x 3" (5 cm x 7.5 cm) cards (cut them from old manila file folders or from scrap cardstock available from copy shops)

Stickers of animals, insects or birds, two of each (sets of stamps are free from the National Wildlife Association if you subscribe to Ranger Rick or Your Big Backyard)

What to do

1. Center one sticker on each card.
2. Separate the cards into two decks, so one of each picture is in each deck. Then mix or shuffle each deck separately.
3. Lay out cards from one of the decks in a row.
4. Draw cards from the other deck, matching them to the ones that are laid out.

More to do

Games: Play Concentration. Shuffle all the cards together and lay them face down in rows. At each turn, players turn over cards, hoping to find a match. Players remove matched cards. If the turned cards don't match, they are turned face down in the same place. The idea is for players to remember the position of the cards.

Mary Jo Shannon, Roanoke, VA

4+

What Do I Eat?

Science skills

Children sort and classify as they learn what foods different animals eat.

Materials

Pictures of a variety of animals
Plastic or real animal foods such as an acorn, carrot, hay, dog bone, birdseed, log chewed by a beaver, beehive, small snail shell, rubber worm
Table

What to do

1. Lay the pictures of the animals on the table and place the food items on the table also.
2. Children work at matching the food and the pictures.

More to do

Games: Make a file folder game using the same principle, only this time using pictures of animals and the places that they usually sleep or live. ▪ On a large piece of cardboard, trace or draw the continents, color them in different colors and write the names of each on them. Then provide small pictures of animals for the children and talk about where the animals originally come from. Write the name of the continent on the back of each so the children can check their work. This activity is a wonderful way to introduce the children to the geography of the world, especially if you are planning a trip to the zoo, where continent maps are usually posted for each animal.

Melissa Browning, Milwaukee, WI

Animal Tracks

4+

Science skills

Children develop a total picture of an animal using observation, classification, imagination and predicting skills.

Materials

Masking tape
Pictures of animals, drawings or cut from magazines
Pictures of animal tracks to copy

What to do

1. Using masking tape, form animal tracks on your classroom or gym floor. You can form the tracks with tape or copy tracks you've drawn on paper and then tape to the floor. Begin tracks on one side of the room and work them toward the opposite wall. Let them zigzag and cross each other.
2. Tracks should end at the opposite wall, where the children will find a picture of the animal hung at their eye level. Remember that a human is an animal also.
3. Instruct children to follow a set of tracks to an animal picture. After the children name the animal, ask them if they can show you how they think this animal would move? What would it eat? Where would it live? Can they make a sound like this animal picture?
4. At circle time, share information on each animal with the children. Record children's remarks and discoveries on a piece of paper to be posted next to each animal picture.

More to do

More science: You can ask each child to adopt an animal until next class. Assign each child an animal and ask him to find out one fact about his animal. During the next class, he can share his knowledge with everyone. Have an encyclopedia on hand in case someone forgets. The new facts can be added to your lists posted next to each animal.

Related recording

"Animal Action" on *Kids in Motion* by Greg and Steve

Connie Heagerty, Trumbull, CT

4+

Bats

Science skills

Children's curiosity about the environment and nature is encouraged, especially about bats.

Materials

Flashlight
Tree, silk or real
Black paint
Bat stencils for tracing, different sizes
Black construction paper
Discarded refrigerator box
String
Large paintbrushes
Paper hole punch
Stellaluna by Janell Cannon

What to do

1. Read *Stellaluna* to the children. Talk about the habitats of bats, what bats eat and why bats hang upside down.
2. Children trace around bat stencils onto black construction paper, then cut out and punch a hole in the bottom of a bat. Attach string so the bats can hang upside down from your indoor or outdoor trees.
3. Make a cave. You and the children can set up the dramatic play area as a camping center with the cave as one of the props. Let the children paint the outside of a refrigerator box with black paint. Hang some of the stencil bats inside the cave. Children can look into the box with a flashlight, or carefully crawl into the box to look at the bats.

More to do

More science: Compare bat habitats to those of other animals. Find pictures of animal habitats and make a mural. • Collect a live insect collection. •Make a chart graphing other animals that fly, hang upside down, hibernate and live in caves and trees.
Snack: Children can make and eat a bat fruit salad.

Related book and magazines

Bat Jamboree by Kathi Appelt
Ranger Rick and *Your Big Backyard*, National Wildlife Association

Cheryl Collins, Hughson, CA

Cuddly Koala Puppet

4+

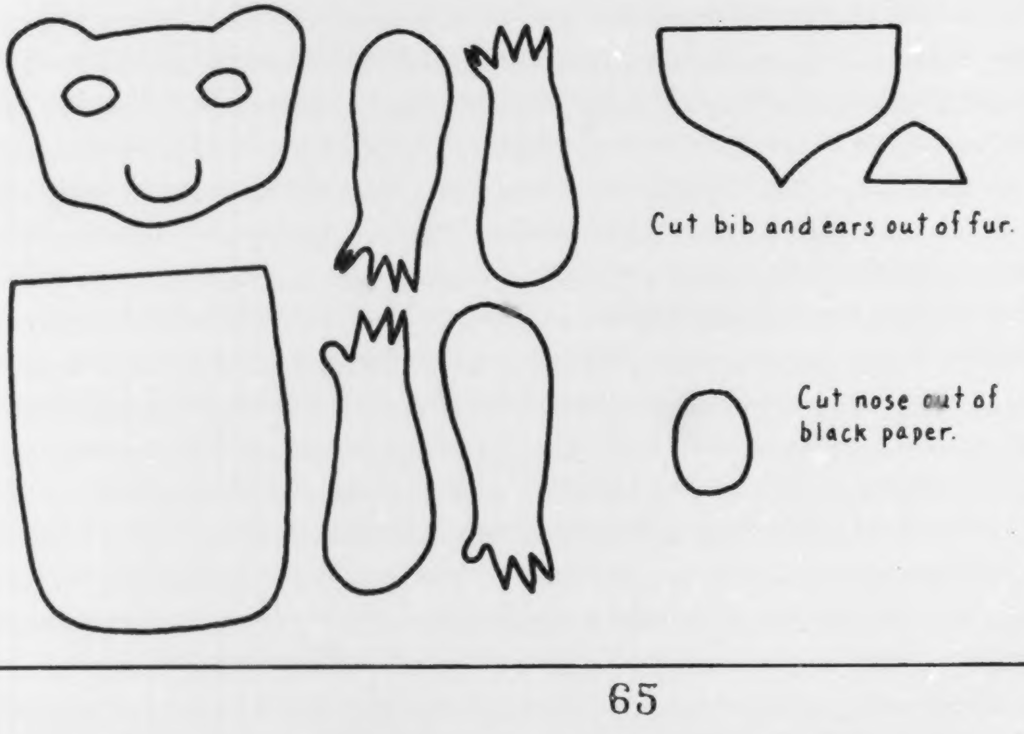
Science skills
With the fun of making a puppet, children learn observation, sequencing, fine motor and visual skills.

Materials

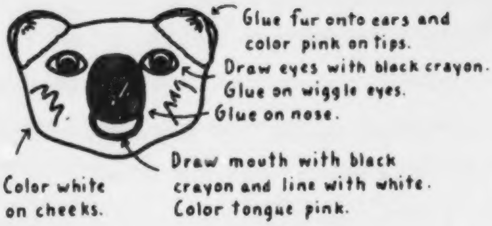
Old white shag rug or white fake fur
Brown lunch bags
Scissors
Medium-point black marker
Pink marker
Brown and black construction paper
Pink, white and black crayons
White glue
15 mm wiggle eyes

What to do

1. Discuss facts about the koala. Compare the koala's hands and feet with human hands and feet.
2. Cut white fur for ears and under chin area ahead of time.
3. Make patterns for the head (with ears), arm, body and leg. Trace two arms and two legs.
4. Make body pattern slightly larger than the front of a lunch bag.
5. Cut the body parts out of brown construction paper. Glue them onto the front of the upside-down bag.
6. Cut the nose out of black construction paper.



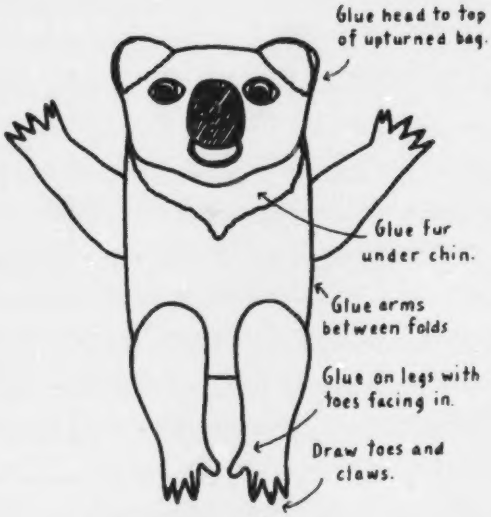
7. Use black marker to color claws on arms and legs.
8. Draw a mouth on the head with black crayon, then white crayon.
9. Use pink to color the tongue and white on the sides for cheeks.
10. Glue on wiggle eyes. Draw around wiggle eyes with black crayon, or the children can draw eyes first, then glue wiggle eye to each center.
11. Dab pink on fur tips of ears with pink marker.
12. Glue the nose to the head, and a fur piece onto each ear. Then glue the head to the top of the upturned bag and a fur piece under the "chin."
13. Glue arms between bag folded areas, sloped upward.
14. Glue legs with toes pointing in toward the other leg.
15. Put a blacker marker line to show where the two toes are grown together as one, but with two claws.


Glue fur onto ears and color pink on tips.
Draw eyes with black crayon.
Glue on wiggle eyes.
Glue on nose.
Color white on cheeks.
Draw mouth with black crayon and line with white.
Color tongue pink.

More to do

Dramatic play: Dramatize being a baby koala, growing and climbing, sleeping and eating.

More science: Find Australia on a map or globe. Let the children fly a small airplane from where they live to Australia. Show pictures of other unusual animals that live in Australia. ▪Name other animals that have pouches. ▪Discuss the reason koalas are not found in most zoos (only in the San Diego and Los Angeles zoos outside of Australia because eucalyptus trees will grow there).


Glue head to top of upturned bag.
Glue fur under chin.
Glue arms between folds
Glue on legs with toes facing in.
Draw toes and claws.

Original song

Oh, Have You Seen a Koala?
(sing to the tune of "Oh Have You Seen the Muffin Man")

Oh, have you seen a koala, a koala, a koala?
Oh, have you seen a koala? She lives very far away.

Oh, yes, I've seen a koala, a koala, a koala.
Oh, yes, I've seen a koala. She lives in Australia.

Oh, have you seen her baby, her baby, her baby?
Oh, have you seen her baby? She carries him in her pouch.

Oh, maybe I'll see her baby, her baby, her baby
Oh, maybe I'll see her baby when he crawls out of her pouch.

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Animals

The Furry Koala and Her Baby

The mama koala climbs up toward the sky.
In a eucalyptus tree where she's high and dry.

She smells each leaf before she will eat it.
Her strong muscles and claws help her to reach it.

She has a pouch where her new baby will grow.
The baby is always with the mommy, you know.

When the baby is too big for mommy's warm pouch
He'll hold on mommy's fur like the back of a couch.

Once in a while mom climbs down from the tree
Then on the ground, she walks very awkwardly.

Back in the tree they both sleep all the day
Then awake at night, they climb and swing and play.

The leaves give mommy water so she doesn't need to drink.
The koala has brownish-gray fur, and looks cuddly, I think.

■ *Mary Brehm, Aurora, OH*

Hamsters Play While We Sleep

4+

Science skills
By observing a real hamster in the classroom, children learn about the habits of nocturnal animals.

Materials

Hamster in cage
White construction paper
Yellow crayons
Paintbrushes
Chart paper
Black marker
Black paint diluted with water

What to do

1. Bring in a hamster in a cage and have the children observe its behavior for several days.

2. As the observations flow, record each one on a large sheet of paper entitled, "What we observe about our hamster." Encourage the children to discuss the hamster's sleeping patterns. Introduce the word nocturnal (active at night).
3. For each child write: "Hamsters are nocturnal" on a white piece of construction paper and help him to read the sentence. Explain what it means.
4. Reinforce the concept. Have each child color a yellow hamster in the center of the page underneath the words. Encourage the children to press down hard with their crayon and color their hamster completely.
5. Crease the paper and fold the sentence back. Then have the children paint over the hamster picture and the entire page with the diluted black paint.
6. The hamster will shine through the black night. Hamsters are nocturnal!
7. Brainstorm a list of other animals that are nocturnal, for example, raccoons or bats.

More to do

More science: Darken the room and challenge the children to attempt to locate an object in the dark. What are the challenges of working in the dark? Talk about ways nocturnal animals adapt. For instance, hamsters have an excellent sense of smell. Bats have sensitive ears and echo-location.

Snack: Serve dry cereal mixed with nuts and seeds for a delicious hamster snack.

Ann Flagg, Clarion, PA

4+

Horse Sense

Science skills

This activity fosters children's observation and classification skills.

Materials

Plastic model of a horse
Velcro strips, cut into ¼" (6 mm) square pieces
Piece of poster board approximately as wide and long as the horse model
Smaller pieces of poster board for one-word labels
Small container for the labels

What to do

1. Before introducing this activity to the children, select the vocabulary you wish to introduce, such as mane, tail, back, neck, foreleg, hoof, etc.
2. Make a small printed label with each vocabulary word and laminate it for long wear. Attach Velcro pieces to the back of the label cards and to the corresponding point on the model horse's body.
3. Make a chart with an outline drawing of a horse and the vocabulary words written on or near the correct body part, mounted on poster board and laminated for long wear.

4. Introduce the model horse and explain that here is a name for each part of a horse's body. Remove the labels from their container and point out that each label word matches a word on the chart. Note that it is not necessary for the child to be able to read the words, only to match them.
5. Using the Velcro patches, attach each label to the point on the horse's body corresponding to the point where the word occurs on the chart, reading each word aloud as you go.
6. Check your work by looking at the chart to see that the words on the horse's body are in the same positions on the chart.
7. Return the labels to their container and invite the children to choose this activity during free choice time.

More to do

More science: After a child has practiced with the chart, ask her if she would like to try to label the model correctly by reading the label words and attaching them without help from the chart. Let the child then use the chart the check her work. • Use models of different animals and introduce different vocabulary. There are excellent models of other farm animals, dinosaurs and human bodies commercially available. •Make copies of your outline drawing with blank lines where the labels should go and let older children write the name of each body part in the correct space after matching the labels to the model.

Susan Jones Jensen, Norman, OK

Rocky Raccoon Puppet

4+

Science skills

With the fun of making a raccoon puppet, the children learn observation, sequencing, fine motor and visual skills.

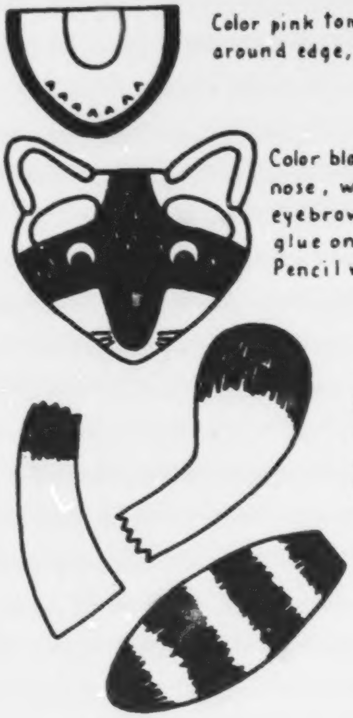
Materials

Ranger Rick magazines
Black, brown, pink and white crayons or tempera paints
Scissors
White glue
Large brown bags
Brown lunch bags
Pencil
20 mm wiggle eyes

What to do

1. Let children look at several issues of *Ranger Rick* magazine.
2. Discuss traits of the raccoon. The name raccoon means "the washer." Raccoons like to wash their food before eating it. They eat tadpoles, minnows, corn, fruit, nuts, vegetables and garbage. They have 40 teeth, nimble fingers and are very curious animals. Baby raccoons can climb before they can even see. Raccoons have "masks" and stripes on their tails.
3. Trace the patterns for the head, tail, leg and jaw of a raccoon on the large brown bags and cut out.

4. Using a brown lunch bag for the body, draw and color the pink tongue on the jaw; color black around the edge. Add white teeth.
5. Crayon black and brown features on the head: mask, nose, top of legs, paws.
6. Add white on the face; then glue on eyes. Make pencil whiskers. Color black stripes both sides.
7. Glue head on top bag flap (the bag is upside down).
8. Glue jaw under bag flap.
9. Glue on arms, legs and tail.
10. Add black fur marks.



Color pink tongue, black around edge, and white teeth

Color black on mask and nose, white on muzzle, eyebrows and ears, and glue on wiggle eyes. Pencil whiskers.

Color black on paws, tops of legs and both sides of tail.

More to do

Dramatic play: Have raccoon puppet show using the puppets the children made. •Children can dramatize being raccoons. Pretend to wash food, climb trees, take a lid off of a garbage can, find a shiny object, etc.

More science: Baby raccoons are called kits. Other animal baby names are owlet, cub, pup, cygnet, duckling. What animal babies have these names? •Raccoons are nocturnal: they hunt for food at night. Discuss other nocturnal animals.

Original song and poem

Little Raccoon (sing to the tune of "Frère Jacques")

Little raccoon, little raccoon,
By the light of the moon,
By the light of the moon.
Your eyes look like a fluorescent green,
You are the cutest thing I've seen,
Little raccoon, little raccoon.

Little raccoon, little raccoon,
Awake at night,
Awake at night.
Your tail is striped and you look mean,
Like a robber on Halloween,
Little raccoon, little raccoon.

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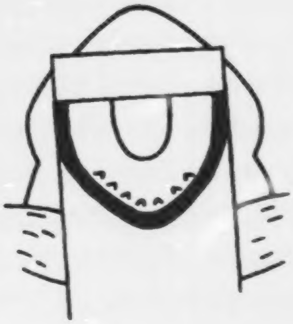
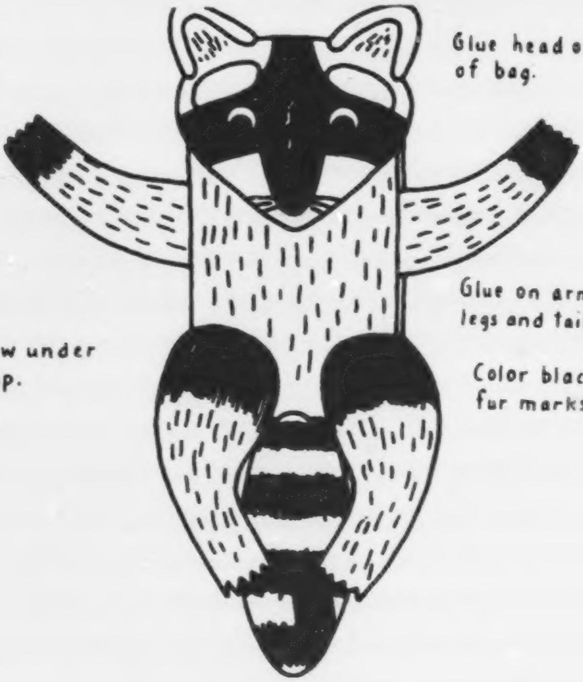
Animals



Glue jaw under bag flap.



Glue head on top of bag.

Glue on arms, legs and tail.

Color black fur marks.

Brown Raccoon at Night

Brown raccoon hunts in the light of the moon
For his food—he'll find some soon.
He will eat just about anything—fruit, nuts,
Veggies or even a bird wing.
You can spot him with his mask and striped tail.
He may even hunt in your garbage pail.

Take the food to the stream near by,
Slosh it in water so your throat won't be so dry.
Run, little raccoon, so wild and so free,
Then with your nimble paws climb a tree.
Take a nap in the early morning light,
Getting ready to prowl again the next night.

■ Mary Brehm, Aurora, OH

4+

Sea Animal Sensations

Science skills
Children practice predicting and inferring to guess an animal correctly in a game.

Materials
None

What to do

1. While children are sitting in a circle, sing the following song to the tune "I'm a Little Teapot":
   I'm a little sea animal thin and smooth.
   I have two fins, they help me move.
   When I want to have fun I wiggle my tail,
   Swim in the water and go for a sail.
2. Ask the children to think of a sea animal they would like to be if they lived in the sea.
3. Choose one child to go into the circle and act out her sea animal.
4. Let the children guess what sea animal they think that child is.
5. Once someone guesses the type of sea animal the child was, that person goes into the center and acts out her sea animal.

More to do

Music: Make up various songs that go with the sea animals that were acted out, for example:

I'm a little sea animal ________ and ________.
I have two ________, and they help me ________.
When I want to have fun I wiggle my ________.
I swim in the water and go for a ________.

Related book
The Ocean Alphabet Book by Jerry Palotta

Stephanie Person, Kingsburg, CA

Animals

What Animal Is It?

4+

Science skills

Children reconstruct a mystery animal from its bones and learn observation and ordering skills.

Materials

Whole chicken, cooked

Stickers or pictures of 4 or 5 different animals, including a chicken

What to do

1. After baking or boiling the whole chicken, remove the meat from the bones.
2. Wash and dry the bones well (microwaving helps the bones dry quickly).
3. Display the bones on a science table.
4. Discuss how scientists had trouble reassembling bones into the proper animal when they first discovered dinosaur bones.
5. Show the pictures of animals; one must be a chicken.
6. Children try to reassemble the bones and guess which animal the bones came from.
7. Record their guesses. Tell them there is a hint in the bones. (Birds are the only animal to have a wishbone. Children are usually familiar with that from Thanksgiving.)
8. Reveal the correct answer.
9. Correct guesses get dinosaur stickers.

More to do

Games: Hide real or paper bones in the classroom and go on a bone hunt.

■ *Teresa J. Nos, Baltimore, MD*

What Do Squirrels Eat?

4+

Science skills

Through observation and experimentation children learn what squirrels eat.

Materials

Book about squirrels

Crackers

Nets

Bread crumbs

What to do

1. Read the class a book about squirrels.
2. Discuss what squirrels might like to eat.
3. Try feeding different types of nuts and crackers or bread crumbs to squirrels. Observe which type of foods squirrels eat.
4. Discuss with the children which foods squirrels ate. Write an experience story with children.

More to do

Art: Children draw pictures of squirrels eating or make collages using cut-out squirrels and real nuts.

■ Deborah Hannes Litfin, Forest Hills, NY

5+

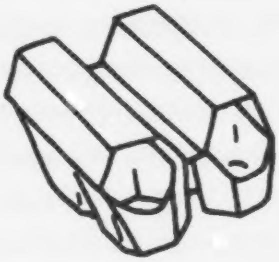
Gator Gait

Science skills

In making an alligator headband and acting out alligator movements, the children's curiosity about the natural world is encouraged.

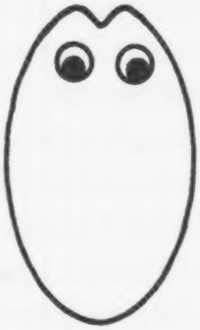
Materials

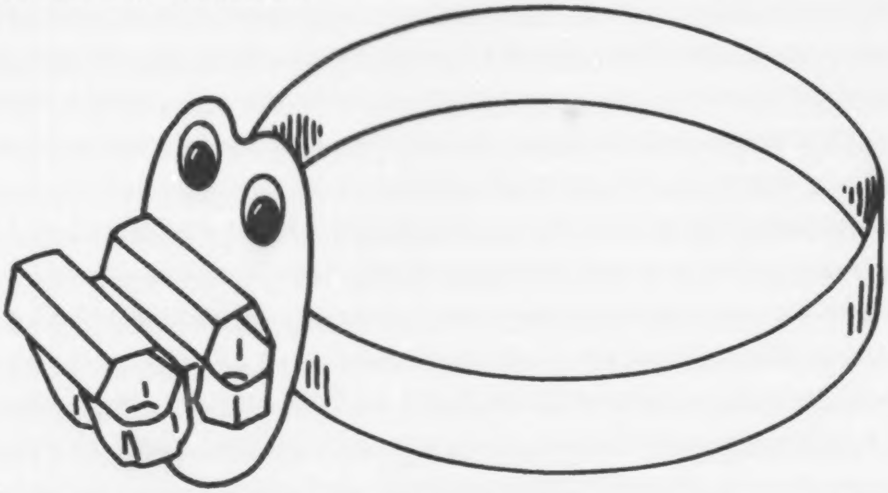
Cardboard egg cartons (one carton will supply three children)
Oaktag
Green paint
Wiggle eyes
Scissors
Green paper
Glue
Chart paper with "Gator Gait" (next page) written on it



What to do

1. Cut the cardboard egg cartons, with top still attached, into three equal sections. Give each child one section.





This is the alligator's mouth.

2. On the oaktag trace one oval for each child. This will be the alligator's head. The size of the oval should be 6" x 3½" (16.5 cm x 9 cm) with an indention in the top of the oval, forming the bulging alligator eyes. The children can cut out the mouths.
3. Have the children paint both the mouth and head green (paint on the side of the oval that now bulges upward).
4. While the alligators are drying, the children make headbands using the green paper. Show them how to fold the paper in half lengthwise, then in half twice more, and cut on the creased lines. Pair off children to help each other measure their heads for headbands using the green strips they just cut out. They glue the strips together to form their headbands.
5. Once the alligators are dry, the children will glue the mouth onto the center of the head, then glue two plastic eyes in the center of the bulges at the top of the head, and then glue their headband to the back of the head.
6. While the glue is drying read "Gator Gait" to the children. Go through the motions while reading together with the class. Now sing "Gator Gait" and do the actions. Ask children to tell you what they learned about the alligator from the song. For example, they should be able to tell you where it lives, how it moves, etc.
7. After the alligator discussion, the children put on their gator headbands. Now sing and act out "Gator Gait" once more together.

Original song

"Gator Gait" (sing to the tune of "Three Blind Mice")

Say, "Let's do the gator gait!"

See the little gators, see the little gators
Doing the gator gait, doing the gator gait
They slither and slide (hands together, arms out in front weaving back and forth)
They sneak and spy (cup hand over forehead, crouching shoulders and head)
With a snap (alligator's mouth, opening and closing hands, together then apart, then close with a clap) and a swap (alligator's tail thrashing back and forth in water—wiggle bottom back and forth)
And a splish and a splash (imitate tromping through water on all fours)
Scurrying through the tall swampy grass (imitate hurrying through tall grass, pushing it aside with your arms like doing the dog paddle)
See the little gators, see the little gators
(Shout) Doing the gator gait!

Related book

There's an Alligator Under My Bed by Mercer Mayer

■ *Kathy Brand, Greenwood Lake, NY*

5+

Fish and Frogs

Science skills
Children learn about pond life, and their social development is enhanced with a small research project.

Materials

Fish Is Fish by Leo Lionni
Chart paper or chalkboard
Pocket chart
Fish and frog references—pictures and informational books

What to do

1. If possible, read a poem or book about frogs.
2. Invite children to tell what they know about frogs, ponds and fish. Record this on a chart or chalkboard. This could be one day's lesson, or you might continue if interest is high.
3. Read Leo Lionni's *Fish Is Fish*. Discuss aspects of the story such as how we all change as we grow, certain animals have to live in certain places to survive, we can still be friends with others even if they are different than we are, etc.
4. Ask the children to list how fish and frogs are different and how they are the same. This can be recorded on a chart or board.
5. Have animal reference books and picture encyclopedias available in the classroom. Divide the class into small groups. Each group can research one of the following areas: fish life cycle, natural fish food, natural fish enemies and how frogs are helpful, etc. Each group member might have a job such as researcher, recorder and reporter. Children should be allowed about two days to research and record their findings.
6. When the research is completed each group will have a turn sharing the facts they learn with the class. Visuals such as books and pictures are encouraged. As each group reports orally, record research findings on a big poster.

More to do

Art: Children can draw pictures of pond life, a fish hatchery or any other fish or frog story they care to depict with crayons. ▪ The children could also do a watercolor wash of blue, green, brown or other colors.

Games: In groups children could make up riddles about different types of fish and amphibians and have the others try to guess what animal it is.

More science: Read *The Little Turtle* by Vachel Lindsay to demonstrate one of the minnow's natural enemies. ▪ Set up a goldfish bowl or tank in the classroom. Discuss the care and feeding of the goldfish.

Related books
Fish Is Fish by Leo Lionni
The Little Turtle by Vachel Lindsay

Jeannie Gunderson, Caspar, WY

Frog Information in a Can

5+

Science skills
Learning frog facts encourage children's interest in nature.

Materials

Pringles can, empty
Large wiggle eyes
Scissors
Construction paper
Glue
Index cards, cut into 1" x 5" (2.5 cm x 7.5 cm) strips

What to do

1. Make a frog by covering the Pringles can with green paper. Glue on the wiggle eyes, a frog mouth and frog legs. Cut a slit in the mouth (the lid) wide enough for the strips to slide in or out.
2. As you learn about frogs, have children dictate information about frogs. Begin each sentence with the word "Frogs." For example: "Frogs hop." "Frogs eat bugs." "Frogs like to live near a pond." "Frogs have long tongues."
3. Place the strips in the frog can. Pull them out one at a time and read them with the children.
4. As a variation, write some strips that are not true, such as "Frogs eat berries." "Frogs have six legs." Mix these with the true statements. Tell children the frog can only eat the true statements. Read the statements and have children decide if the statement can be fed to the frog.
5. Place the frog can in the science area so children can use it independently.

More to do

Math: Children practice estimation and counting skills when you put frog counters or gummy frog candies in a small jar. Put in a different number each day. Count the frogs each day after all have guessed, and let the children jump like frogs as many times as the number of frogs. Having a big difference in the number from day to day allows the children to experience the idea that larger numbers fill more of the jar. •Help each child cut out a lily pad shape, about 9" x 12" (22.5 cm x 30 cm), from green construction paper. Have each child put 12 frog stickers on his lily pad. Roll a pair of dice. A child counts the dots and tells how many there are. Children use frog counters or buttons to cover that number of frog stickers on their lily pads. As a variation, cover all the frog stickers with buttons or frog counters and remove the number that is called out. How many are left?
Snack: The children can make Frogs on a Log by cutting two-inch pieces of celery and filling the celery's cavity with peanut butter or cheese spread. Then place a gummy frog on each log, using the peanut butter to hold the frog in place.

Original song

Sing to the tune of "Twinkle Twinkle Little Star."

Little green frog likes to hop,
Hop and hop and hop and hop.
Hopping here, hopping there
Hopping, hopping everywhere.
Little green frog likes to hop,
Hop and hop and hop and stop.

Related books and recording

Frog and Toad are Friends by Arnold Lobel
Frog: See How They Grow Book by Tim Taylor
Jump, Frog, Jump! by Robert Kalan
The Mysterious Tadpole by Steven Kellogg
Tuesday by David Wiesner
"Five Green and Speckled Frogs" (available on many children's music albums and in song books in your library)

■ *Barbara F. Backer, Charleston, SC*

5+

Life Cycles

Science skills

Children work on their sequencing skills.

Materials

Life cycle pictures from old science books
Glue
Flannel board
Construction paper, various colors
Felt

What to do

1. Cut out pictures showing the life cycle of a frog, butterfly, chicken, robin, etc.
2. Mount the stages of each on a piece of construction paper, using a different color for each animal.
3. Laminate the pictures, then back them with felt.
4. Let the children pick an animal or insect and arrange the pictures of its life cycle in proper sequence on the flannel board.

More to do

Games: Have a child dramatize a stage in the life cycle of one of the animals. The other children can guess which stage and which animal it is.

Related book and recordings

Chickens Aren't the Only Ones by Ruth Heller

Animals

"Baby Bird," *Wee Sing Children's Songs and Fingerplays*
"Egg to Chick," "Butterfly Song" and "Pollywogs," *Animals*, Sing and Learn

■ *Jackie Wright, Enid, OK*

3+

Blossom Study Tablecloth

Science skills
Children use fine and gross motor skills to create art from nature.

Materials

Flat, hard work surface such as a concrete floor
Plain white tablecloth or white sheet
Hammer
Permanent marker, optional
Paper grocery bags
Collection of fresh flowers, blossoms and leaves
Table knife

What to do

1. Spread the grocery bags out on a concrete floor or other hard work surface. The work surface should be able to take extremely hard pounding with a hammer.
2. Spread half of the tablecloth out over the grocery bags. Let the other half spread out on the floor for the moment.
3. Arrange the collection of flower blossoms and leaves over the grocery bag half of the tablecloth. Ignore the other half for now. Encourage the children to group and arrange blossoms and leaves by color, type, size or other scientific observation. Some scientists like to arrange the blossoms in order from small to large or by groups of color. Others like to make a pattern or combination of both. Any grouping ideas are okay.
4. Now fold the other half of the tablecloth carefully and gently over the arranged and grouped flower blossoms and leaves. Two people may be needed so that the blossoms don't blow away.
5. Next, feel where covered blossoms are with your fingers. When you find them, pound on them with a hammer until the juices and colors soak through the fabric. Be careful not to pound so long and hard that you make a hole.
6. Move on to other blossoms and leaves, continuing to hammer until all the blossoms have been pounded and their colors have soaked into the tablecloth.
7. Open the tablecloth. Scrape the plant bits and pieces away with a table knife and brush extra bits away with the palm of the hand.
8. Cover a table with the cloth, showing the naturally colored fabric.
9. To compliment the tablecloth, place a vase of flowers in the center of the table, the same kinds of flowers used in the project. To launder the tablecloth, wash it in cold water only. Even so, colors will fade significantly. Do not use bleach. Dry on low.

More to do

Language: Write the names of the flowers and leaves directly on the tablecloth with a permanent marker. Make lines around the plant impressions with the permanent marker to help highlight groupings or plant varieties.
More art: Create napkins or a table runner using the same directions.

Original poem

Billowy Pillowies

Cherry blossoms, pink and billowy
Apple blossoms, white and pillowy.
Every tree all soft and fluttery
Filled with flowers sweet and puffery.
Then the wind becomes all blowy,
Blossoms fly like winter snowy.
Now my hair's all billowy pillowy,
And my clothes are fluffery puffery.
See the ground, just like snow,
That's how billowy pillowies go.

MaryAnn F. Kohl, Bellingham, WA

Tie-Dye Weaving

3+

Science skills

This artistic activity teaches observation and fine motor skills.

Materials

12" (30 cm) strips of cotton muslin, 1" (2.5 cm) wide, prewashed
Bowls or buckets for dye
Food coloring, as many colors as you desire
Water
Rubber or latex gloves
Outdoor wire fence or chicken wire loom

What to do

1. Tie each strip with two knots that are tight enough to resist the dye, but loose enough to untie later.
2. Mix food color and water in bowls or buckets.
3. Allow children to dip the muslin strips into the first color.
4. Squeeze the excess dye out of the muslin into the bowl or bucket.
5. Repeat in at least one more color (you may want to use primary colors only).
6. Hang to dry.
7. Untie the knots when the strips are dry.
8. Weave the strips into a fence or loom.

Cathy Costantino, Carol Patnaude, Lynn R. Camara, Warwick, RI,
and Darlene Maloney, East Greenwich, RI

3+

Sun Prints

Science skills
Children make predictions, observe cause and effect and check their predictions.

Materials
Dark-colored construction paper
Collection of classroom objects, such as scissors, crayons, blocks
Sunlight

What to do

1. As the children are seated for circle time, discuss the collection of objects in relation to their shapes.
2. Ask each child to select a few items and place them on a dark-colored piece of construction paper.
3. Encourage the children to predict what will happen to the construction paper when it is placed in the direct sunlight.
4. Put these papers with the objects on them in direct sunlight. This can be done indoors by a window in the direct sun, or outdoors.
5. After a few minutes, the children can remove the objects to discover what happened to the paper.
6. Discuss why the shapes of the objects remain on the paper even though the objects have been removed (the sunlight faded the paper). Compare the results to the children's predictions.

More to do

More art: Without the children, prepare different prints and have the children guess what objects were used to make those prints.

More science: Do this activity during different seasons of the year and discover why it takes longer for the print to appear in winter than in summer.

Related book

What Makes a Shadow? by Clyde Robert Bulla

Sandra Fisher, Kutztown, PA

Magic Pictures

3+

Science skills
The children observe evaporation as they create designs and pictures.

Materials

- Water
- Salt
- Cotton swabs
- Plastic cups
- Dark paper

What to do

1. Let each child make his own solution for painting by mixing 1 cup (250 ml) of water with 2 tablespoons (30 ml) salt. Talk about the changes as the children mix.
2. Ask where the salt went, then explain that it dissolved.
3. Let the children paint a design on dark paper using cotton swabs.
4. Set it in a sunny spot to dry. Check the paintings from time to time. Ask what is happening. Talk about evaporation. The children will find it fascinating when the salt designs magically appear.

Related book

Rain, Drop, Splash by Alvin Tressett

Cindy Winther, Oxford, MI

Sand Sketching

3+

Science skills
As they make delicate designs, children practice observation and fine motor skills.

Materials

- Clean or silicone sand, about 4 cups (1 liter)
- Cookie sheet or lasagna pan, 8" x 11" (20 cm x 27.5 cm)
- 3 sturdy sticks, 12" (30 cm) long, or a ⅜" (10 mm) dowel
- String or yarn, about 18" (45 cm) long
- Pointed stone or mason plumbob tool

What to do

1. Pour the sand into the sheet or pan.
2. Place the three sticks into the sand, positioning their bottom ends in tripod position.
3. Bring the top ends of the sticks together and wrap several times with string.
4. Drop the remaining string down the center of tripod.
5. Tie the pointed rock or plumbob point down to the string so its tip touches the sand gently.
6. Adjust the sticks to allow free movement of the pendulum, so the point sketches the sand and continues to move.
7. Encourage the children to gently push the end of the pendulum to set it into motion and make a design.
8. Erase the sketch by smoothing the sand, and begin again.

Dani Rosensteel, Payson, AZ

3+

Shell Prints

Science skills

Children use creativity and visual skills to make a picture.

Materials

Medium or large size shells
Pie tins or paint pans
Paintbrushes
Smocks
Paints, any color
Paper

What to do

1. Let each child choose a shell and paint it with a brush or roll it in a shallow pan of paint.
2. He puts the shell in the middle of a piece of paper.
3. Let the child begin to roll the shell around the paper or crumple the paper around the shell.
4. Remove the shell from the paper and allow the print to dry.

More to do

More art: Children can choose other objects from the room or home to cover with paint and make prints.

Ann Gudowski, Johnstown, PA

Art

Nature Rubbings

3+

Science skills

This art project will stimulate children's interest in and curiosity about the environment and nature, as well as help them develop fine motor skills.

Materials

Paper
Crayons or colored chalk

What to do

1. Explain to the children that they will be going on an outside art walk.
2. Demonstrate how to make rubbings, by placing paper over an object, such as a leaf, and gently rubbing back and forth with crayon or chalk to make an image.
3. As your class interacts with the environment, make rubbings of tree bark, the sidewalk, a fallen leaf, twigs, the grass, tires, etc.

More to do

More art: Make a classroom book or bulletin board display of your art walk rubbings.
More science: Collect various nature artifacts such as fallen tree bark, dead leaves and dried bugs and observe with magnifying glasses.

■ *Patricia Moeser, McFarland, WI*

Chalk Scraping Prints

3+

Science skills

Children learn that chalk dust floats.

Materials

Newspapers
Different colored chalk (sidewalk chalk is best)
Children's scissors
Shallow pan of water
Manila or ditto paper cut into shapes, if desired

What to do

1. Prepare the area by spreading out newspapers and filling the shallow pan with water.
2. Show children how to hold chalk over the water and use the scissors to scrape the different

colored chalk so the dust floats on top.

3. Keep scraping chalk until you have many colors floating on top of the water. Three or four children may scrape at one time.
4. Take the manila or ditto paper and lay it gently on top of the water. Do not push it under!
5. Pick it up carefully and you have a print. Allow to dry. Four or five prints may be made before it is necessary to change the water (all the chalk dust goes to the bottom as you put the paper on).

More to do

More art: This project can be adapted to any season or holiday by cutting the paper into appropriate shapes. For example, at Easter, the paper could be cut into egg or bunny shapes and for spring or summer projects into flowers.

Leslie B. Brunner, Hot Springs, VA

3+

Invisible Design

Science skills

Children compare and contrast different painting techniques.

Materials

Cooking oil in a cup
Brushes
Window or light source
Butcher paper
Water in a cup

What to do

1. Paint with cooking oil on butcher paper.
2. Hold the design up to the light to make the art visible.
3. With a paintbrush full of water, paint over the oil design. Paint on the untouched paper too.
4. Look at the way oil and water act together.

More to do

More art: Using a damp sponge, try to wipe the oil design away. • Paint with watercolors on the oil and water designs. •Draw with permanent felt pens on the oil and water designs.

Nancy Gardner, Weymouth, MA

Invisible Paint

4+

Science skills

Children practice writing their names and using observation skills.

Materials

Candles, the clear emergency kind (break in half to extend use)
Plain art paper and pencils
Watercolors

What to do

1. Help the children practice writing their names on the paper.
2. Give each child a candle to draw with. Let them know that even though they cannot see their writing now, they will be able to see it later. (The more wax they use the better). Encourage them to try writing their own names with the candle.
3. Allow the child to paint watercolors over the entire page to reveal the secret designs and shapes.
4. Hang to dry.

More to do

More art: Try same activity on fabric!

Dani Rosensteel, Dayson, AZ

Berry Purple Paint

4+

Science skills

Children have fun with natural dyes and observe cause and effect relationships.

Materials

Brown onion skins
Stove
Juice from 1 package of canned blueberries
Stapler
Pan of water
Juice from a can of beets
Newsprint
Three 2" x 3" (5 cm x 7.5 cm) strips of white cotton or flannel per child
One cardboard strip per child, 1½" x 8" (3.5 cm x 20 cm)

What to do

1. Boil onion skins in water to cover to create a brown liquid. Remove skins.
2. Place bowls of beet, berry and onion juice on the table. Look at the foods they came from. Name the colors. Let each child dip a strip of cloth into the beet juice, remove it and squeeze it out. Note the color.
3. Each child may do the same with two more pieces of cloth, one for the blueberry and one for the onion skin juice. Spread the strips out on newsprint to dry.
4. Staple the fabrics onto a strip of cardboard to take home.
5. Talk about how Native Americans and early settlers made their own dyes and inks.

More to do

More science: Dye some craft sticks, tongue depressors or flat wooden craft shapes with the natural dyes and use them for making pictures and constructions.

Related books

Charlie Needs a Cloak by Tomie dePaola
The Legend of the Indian Paintbrush by Tomie dePaola

Sandra Gratias, Perkasie, PA

4+

Easy and Inexpensive Block Printing

Science skills

Children practice fine motor skills while creating a gift.

Materials

Paper cutter
White paper, 9" x 12" (22.5 cm x 30 cm)
One #2 pencil with a medium point for teacher
Newspaper
Rolling pin
One tube of pink or red water-soluble ink for block printing
White Styrofoam meat trays, one per child
Pencils for the children
Red crayons
One 4" long brayer (roller)
Flat metal or baked enamel tray or cookie sheet

What to do

1. Use the paper cutter to cut off the sides and any excess from the trays so that they are uniform in size.
2. Fold the 9" x 12" paper in half to be 6" (15 cm) wide. Open and write with a red crayon "I love you," and sign your own name in pencil.
3. Cut more paper the same size as the trays and let the children practice their designs for a card cover with pencils.
4. With pencil, the children draw the same design on the Styrofoam. Do not use letters, as they will be reversed.

5. The indentations left by the pencil will be white when printed. If the grooves are not deep enough, an adult should retrace the design on the Styrofoam with a sharper #2 pencil.
6. Cover the work area with newspaper.
7. Squeeze a little ink onto the metal tray, then roll the brayer in it until it is coated.
8. Roll the brayer onto Styrofoam design until uniformly coated.
9. With ink side down, center the tray on the cover of the card and roll on top of it with a rolling pin, using some pressure. Lift off and let the print dry.

More to do

Games: Put three to five dry block print trays on the floor. Let the children try to throw a beanbag onto or touching one or more trays. Give the child three or four beanbags with which to try. Keep score beside each name on chart or chalkboard. This will encourage letter and numeral recognition. • Line up the dry block prints on an easel at circle time. Children close their eyes and the teacher removes one design. The children try to figure out which design is missing. As a greater challenge, rearrange the remaining designs. This helps to develop memory. • Use the prints as a matching game. Give a child a dry block print design. Ask him to find the card that matches the design he was given.

Math: Count all the circles (or squares or Valentine shapes) on the group of several designs. • Use block printing as a review of the various shapes that the children have learned (square, triangle, diamond, etc.). Each child could block print a different shape and then name it.

More art: Use the same technique but vary the design and color of block printing ink to make cards for Mother's Day, Father's Day, Easter, Christmas, Hanukkah or any other occasion. • Block print a border or mural for a bulletin board. Either reuse one design over and over or use many children's designs. • Block print designs on a large sheet of paper and use as wrapping paper for a special parent gift. • Use cards made by block printing as invitations to a school activity or open house. • Design a picture to block print, not necessarily a card. For example, make a snowman and snowflake scene, perhaps using a larger piece of Styrofoam.

Original poems

A Valentine for Mommy and Daddy

I love you, Mommy.
I love Daddy, too,
And I want to make
A Valentine for you.

I'll get some paper and
Draw a heart.
I want it to be pretty.
How do I start?

Maybe some stickers,
Some yarn or lace,
Perhaps draw an animal
Or a funny face.

I'll color with crayons,
Paint or glitter and glue.
Then make some x's and o's to say,
"I love you."

Making Valentines
I like to cut out Valentines
And decorate them with lace.
Some are very beautiful,
Others have a funny face.

I make them for my friends
And for my grandparents, too.
I'm working on a red shiny one
Just especially for you.

Each Valentine is different.
I use paper of every kind.
When you open up the envelope
You never know what you'll find.
Oh, it's fun to get some cards
On happy Saint Valentine's Day
But the most fun of all
Is giving them away.

A Letter to Santa
It's so hard to wait for Christmas
It takes so long to get here
I think that Merry Christmas
Is the best holiday of the year.

I just think and think about
The toys I like the very best
And Mommy writes a list for me
Like a ball, bike or treasure chest.

Then my daddy looks at my letter.
He reads it over twice,
And tells me it's a long list
So I'd better be real nice.

I get a big fat envelope
My letter can't be too wide.
And I fold it up just so
Then it can hide inside.

Art

My mother lets me lick the stamp,
And she puts the address on.
Then I take it to our mailbox
I wonder if the postman's gone?

I won't know 'til Christmas
If Santa got my letter all right,
But I'll hang up my stocking and hope.
Gee, I just can't sleep tonight.

Mary Brehm, Aurora, OH

Native American Sand Art

4+

Science skills
Children use small motor skills in this activity.

Materials

Sandpaper
Oven or toaster oven
Cookie sheet
Crayons
Hot pad

What to do

1. Discuss Native American symbols. Draw some on the chalkboard. Explain that Native Americans would often draw a picture to symbolize a word or an event.
2. Give each child a piece of sandpaper, cut to whatever size will fit your toaster oven. Have the children draw pictures and symbols on the sandpaper using crayons. Press hard.
3. Place the drawings on a cookie sheet with heavy items on the edges of the pictures so they will not curl from the heat. Heat each sheet in the oven at 350° F (180° C) for 20 minutes.
4. Observe with the children the changes in their pictures.
5. Make a construction paper frame for these shiny works of art!

More to do

More art: For a variation of the above project, after you remove the pictures from the oven and cookie sheet, immediately place a white piece of paper over the top and rub with your hand. The melted crayon will rub off onto the paper, making a print.

Sand and water table: Place damp sand in your table and encourage the children to use their fingers or a stick to draw pictures and symbols in it.

Valerie Chellew, Marshfield, WI

4+

Solar Crayons

Science skills
Children observe solar energy and learn cause and effect.

Materials

Broken crayons
Wooden hammers or wooden blocks
Warm, sunny day
Resealable plastic bags, quart or liter size
Aluminum muffin tins

What to do

1. Children place a handful of broken crayon pieces of a single color into a resealable plastic bag and seal it up.
2. Pound the bag with a hammer or block until the crayons are well crumbled.
3. Empty the bags into individual muffin tins. Use a separate tin for each color.
4. Place the tins in a sunny area and check them periodically for signs of melting.
5. When the crayon bits have melted into one mass, let them cool overnight. Give each child his recycled solar crayon.

More to do

More art: Draw designs with the cooled crayons.
More science: Make a solar hotdog grill as follows: Cut a cardboard oatmeal box in half lengthwise and line it with foil. Skewer a pre-cooked hotdog with a long wooden skewer and put it in the box. Place in a sunny spot. Rotate the skewer occasionally. The hotdog is done when it sweats.

Teresa J. Nos, Baltimore, MD

4+

Spin Art

Science skills
Children use all their senses to observe centrifugal force.

Materials

Old record player/turn table
Lots of paint colors
Syringes without the needles, optional
Paint aprons
Sheet of plastic, large enough to cover the record player
Lots of cheap paper plates
Squeeze bottles
Basters

What to do

1. Find an area out of the way in the classroom so that you can do this activity for a while.
2. Place the sheet of plastic over the record player with the spindle (through which the record would normally be placed) poking through. This is a safety precaution, to ensure that no liquid makes contact with the record player itself.
3. Write the children's names on the paper plates. Put a paper plate on the spindle of the record player by pressing the spindle through the center of the plate.
4. With constant adult supervision turn the record player on. The plate spins.
5. Let the children squeeze small amounts of paint onto the plate with squeeze bottles, syringes or basters, and watch the colors move and spin.
6. Turn the record player off after every plate. Hang the plates to dry.
7. Remember to unplug the record player.
8. Discuss the circular motion and how liquid responds to the circular motion.

Dani Rosensteel, Payson, AZ

Textures

4+

Science skills

Children make observations about their environment as they create a rubbed picture.

Materials

Newsprint
Textures (tree bark, asphalt, leaves, etc.)
Dark crayon or charcoal

What to do

1. Give each child or pair of children a piece of newsprint paper and a dark crayon or charcoal.
2. With a few minor instructions, send the children around the room or playground looking for textures to rub.
3. As the children lose interest, bring them back together for show and tell and a discussion of the different textures around us.
4. Discuss which textures make good rubbings and which ones do not.

More to do

More art: Give each child a pre-drawn picture with large areas (for example, building with a roof, tree, grass, dirt, car, animals, etc.). Instruct each child to use a variety of colors and fill in each area with a texture rubbing, trying to reproduce the look of boards, ground, etc. Display the finished products.

Wanda K. Pelton, Lafayette, IN

4+

Watching Absorption

Science skills

Children practice observation and use fine motor skills.

Materials

White paper towels, napkins or tissue paper	Muffin tin of water with food color added, different color in each tin
Eyedroppers	

What to do

1. Cover your workspace very well because food color is permanent.
2. Children will fold the white paper towel or other paper and drop on the colors with the eyedroppers.
3. Colors will be observed to move, especially on the paper towel. Some colors will combine to make a new color.
4. Write names with a ballpoint pen, because markers will bleed on the paper.
5. Open very carefully! When dry, these pretty papers can be used for wrapping packages!

Hint: When using tissue paper, help the child fold it as small as possible and do not attempt to completely unfold the tissue until it is dry.

More to do

More science: Encourage the children to watch the color move up the eyedropper. This will use eye muscles to track the water movement. Children will learn to coordinate their fingers with the filling and emptying of the dropper with air and colored water (fine motor functions), and to concentrate while placing the colors where they desire (eye/hand coordination).

Linda Ann Hodge, Minnetonka, MN

5+

Oil Design

Science skills

Children make observations and draw conclusions.

Materials

Pan, 11" x 14" (27.5 cm x 35 cm)	Water
Food coloring	Cotton swabs
Cooking oil in small pan	Wax paper
White construction paper	Clothespins

What to do

1. Prior to the lesson, fill the 11" x 14" pan half full with colored water.
2. Give each child a piece of wax paper to use as a work surface and a cotton swab. Ask them to dip their cotton swabs into the pan with cooking oil.
3. Take this oil-soaked cotton swab and draw on the white paper, creating a design. Make sure there is always enough oil on the cotton swab.
4. When the design is complete, attach a clothespin to one end of the paper.
5. The child picks up the paper with the clothespin, puts the paper in the pan of colored water and pulls it through the pan so the entire paper is submerged.
6. Remove the paper and allow it to dry.
7. Discuss why the colored water did not adhere to the oil designs—because oil and water do not mix.

More to do

More art: Children can write secret codes or messages or make secret designs for their friends. The recipient can read the message by placing the paper in colored water.

Sandra Fisher, Kutztown, PA

Peas & Toothpicks Sculpture

5+

Science skills

Children develop fine motor skills as they build a sculpture.

Materials

Whole dried peas
Round toothpicks
Paper plates

What to do

1. Soak the peas overnight in enough water to cover. They should be firm, but soft enough for a toothpick to be pushed in easily. Keep the peas covered so they won't dry out.
2. At the art table, lay out the peas and toothpicks. Each child gets a paper plate on which to build his sculpture.
3. Demonstrate how to push the toothpicks into the peas gently. The children may tend to connect one after another into a long line. You may need to guide them to build a more three-dimensional building. It would be helpful to have examples previously made for them to look at.
4. Allow the sculptures to dry. As the peas dry they will create a firm bond to the toothpicks.

Valerie Chellew, Marshfield, WI

Babies

3+

Bathing Babies

Science skills

With the fun of play in warm, soapy water, children learn about water safety and practice fine motor skills.

Materials

Several baby dolls
Water table or baby tubs
Wash cloths
Bathtub safety seats
Towels
Warm water
Baby soap and/or shampoo bottles (trial size)
Rinsing cups
Water thermometers

What to do

1. Fill water table or tub with warm soapy water.
2. Add toys, wash cloths, sponges, cups and thermometers to water along with dolls.
3. Talk about how to hold the baby while bathing or show the bathtub safety seat and discuss how they help keep babies safe and other water safety tips.
4. Allow the child to use soap/shampoo to give the baby a bath, rinse, sing, play in water, etc.
5. Towel dry the babies and you're done. Babies are all clean!

More to do

Home living: To enhance fine motor skills, allow the children to try to diaper and dress the dry baby dolls after bathing them. • Expand self-help skills by allowing the children to dress themselves this week as the opportunity arises. Use circle time to practice putting on socks, shoes, coats, sweaters, hats, mittens, etc.

Tina R. Woehler, Flower Mound, TX

3+

Lotion Play

Science skills

In this wonderfully messy activity children use their senses and develop fine motor skills.

Materials

Trays or clean tabletop
Baby lotion (hypo-allergenic)
Old combs, toothbrushes, frosting spreaders, paintbrushes, etc.

What to do

1. Put the lotion onto the surface, about two table spoons (30 ml) per child.
2. Add any object that you might manipulate the lotion with.
3. Allow the children to use their hands to spread, draw and rub lotion on the tray surface or on their bodies.
4. Observe and talk about the texture, smell, sight, etc., while exploring takes place.
5. Add more lotion as it dries or gets absorbed into the children's skin.
6. Wash excess lotion off with soap and water after play is complete.
7. Clean the tabletop with dry paper towels and damp sponges. Trays may be washed in warm soapy water.

Tina R. Woehler, Flower Mound, TX

Baby Food Experiment

3+

Science skills

As they eat, children use communication skills and record data.

Materials

Canned carrots, green beans, peaches and pears
Can opener
Food processor
Baby spoons, one per child
Empty, clean baby food jars with labels, the same kinds as the above listed foods
Fresh bananas
Large spoon
Plates

What to do

1. Place the contents of the can in the food processor, one type of food at a time. Blend until smooth.
2. Place food in the empty jar with the appropriate label.
3. Talk about how the canned items were pre-cooked and preserved and are ready for processing to make baby foods.
4. Introduce the fact that a baby usually has no teeth when she begins to eat solid foods; that's why her foods must be smooth.
5. Place each food in the processor and blend until you have made enough food for all the children.
6. Serve each food to the children and allow them to eat it with the baby spoons.
7. Discuss the textures, tastes, smells, etc., as they eat the food.
8. A tasting chart can be made for each food tasted per child. Record likes and dislikes.

More to do

Home living: Add baby spoons, bibs, highchairs, plates, etc. to the center for pretend baby feeding.

More science: Invite a parent with a real infant to visit the classroom and allow the children to watch as the infant is fed. Talk about portion sizes and spoonfuls used. Note how long it took the baby to eat the food, too. • If children are interested in the texture of baby food, allow them to play with it in mess trays using baby spoons, scoops, etc.
Snack: Make warm milk and other foods that infants drink (use whole milk for best results).

Related book
Here Come the Babies by Catherine Anholt

Tina R. Woehler, Flower Mound, TX

Seashell Art

3+

Science skills
The children classify objects, learn numbers and discuss nature.

Materials
Seashells of all shapes and sizes and/or small pieces of driftwood from the beach or craft store
Cardboard cut into pieces of various sizes
Poster paint or watercolors
White glue
Fishing wire
Optional: a power drill, small wiggle eyes

What to do
1. Divide the children into small groups.
2. Give each group of children some seashells. If you do this project as a follow-up to a trip to the beach, let the children use the shells they collected themselves.
3. Have the groups sort and classify the seashells and tell what their classifications are (colors, shapes, etc.).
4. Ask the children to count the shells in each category and write the number down. Let them take turns reporting their findings to the class.
5. Discuss what animals lived in the shells.
6. Let the children do one or more of the following activities with their shells: paint their shells with poster paint or watercolors; glue shells onto the cardboard to make a sculpture; make shell creatures by gluing shells together and gluing eyes on the shells; have an adult drill holes in the shells and driftwood and then use the fishing wire to tie the shells to the driftwood to make shell mobiles; use the drilled shells to make jewelry.
7. Discuss how Native Americans used shells for money and jewelry. Show the children pictures and read them related books.

More to do
Field trip: Take the children to a museum to see Native American art.
Language: Encourage the children to dictate a story about who they think lived in the shells and how they think the shells ended up on the beach.

Barbara Saul, Eureka, CA

3+

Winter Beach Party

Science skills
This activity allows children to practice fine motor skills and fosters social development.

Materials

Lawn chair
Seashells
Sand bucket and shovel
The Rainbow Fish by Marcus Pfister
Hula hoop
Dowel
String for fishing pole
Sunglasses
Other books about beaches, oceans and fish
Beach towels
Paper
Paper fish, with paper clip attached to each
Magnet
Crayons or markers

What to do

1. Greet children wearing sunglasses and sitting in a lawn chair.
2. Display books about fish, sea and beaches on a table decorated with the bucket, shovel and seashells.
3. Children can sit on beach towels on the floor.
4. Read *The Rainbow Fish* with the children.
5. Create an ocean using a hula hoop on the floor. Put the paper fish, each containing a paper clip in the "ocean." Each child now has the opportunity to go fishing. The pole is a wooden dowel with string and a magnet used to catch the fish. Children can color fish now or at home.
6. Sing "Row, Row, Row Your Boat." Pair the children and ask each pair to join hands and sit face-to-face on the floor. Sing the song as the children rock back and forth, rowing their boats.
7. Complete the beach party by giving each child a seashell and the fish caught earlier.

Original poem

The Whale
(adapted from Juba This, Juba That by Virginia Tashjian)

If you ever, ever, ever (clap each word which repeats)
Meet a whale, whale, whale,
You must never, never, never
Touch its tail, tail, tail.
If you ever, ever, ever
Touch its tail, tail, tail,
You will never, never, never
Meet another whale, whale, whale.

Joan Bowman, Bensalem, PA

A Day at the Beach

4+

Science skills

With sand and water play, children use their fine and gross motor skills and have an opportunity for social development.

Materials

Sand (take children to the beach or use a large sand box)
Old spoons or plastic sand shovels
Sand pails or plastic bowls
Water

What to do

1. Divide the children into small groups.
2. Tell the children that they are going to have a contest to see who can build the biggest sand castle in a set amount of time (try 10 minutes).
3. At the end of the activity have the children admire each other's work and give a small award to all.
4. Now tell the children that they are going to have a contest to see who can dig the deepest hole in a set amount of time.
5. At the end of the activity, encourage the children to admire each other's holes. If this activity is done at the beach, see if any of the children hit water when they dug their holes and discuss why they found water.

More to do

Language: When the children return to class, have them draw pictures of their sand castles and dictate experience stories about them. Make a class book with the stories.

More science: Make a whole community out of sand. Have the children brainstorm what buildings belong in a community and have each group build some of the buildings and roadways in the community.

Related book

Big Al by Andrew Clements

Barbara Saul, Eureka, CA

4+

Sand Candles

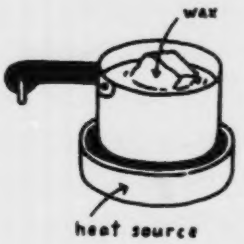
Science skills
This activity develops the children's fine motor skills.

Materials

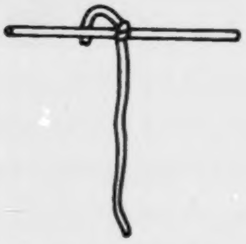
Candle wax or paraffin (clear wax can be colored by adding a crayon to it while it is hot)
An old pot or large can
Heat source (campfire, hot plate or stove)
String cut into 7" (17.5 cm) lengths
Small sticks, from 4" to 7" (10 cm to 17.5 cm) long, or try dowels or old pencils
Sand, at the beach or in a sandbox or dishpan

What to do

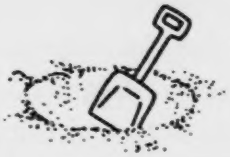
1. Put candle wax or paraffin in the pot or can and heat until the wax turns to liquid.
2. Tie a string onto the center of each stick, dowel or pencil.
3. Ask each child to dig a small hole in the sand, 3 to 6 inches (7.5 cm to 15 cm) deep.
4. An adult will pour the hot wax into the sand hole.
5. Help each child take the pencil and string and put the string into the hot wax, holding it on the top with the pencil. Rest the pencil on the opening to support the string until the wax cools. This will be the candlewick.



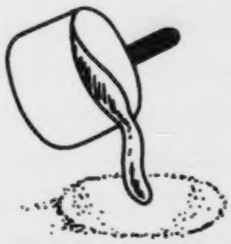
Melt wax in pot.



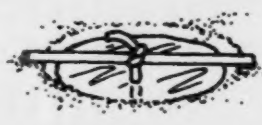
Tie string to stick.



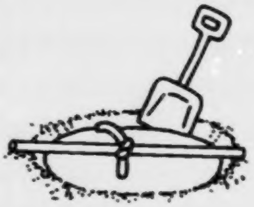
Dig hole in sand.



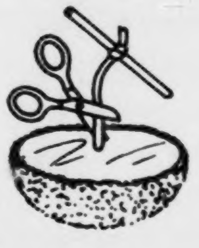
Pour wax into the sand.



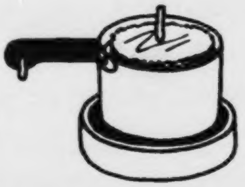
Put string in wax and rest stick on opening.



Dig out candle



Trim wick.



Dip candle into hot wax.

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6. After the wax sets and cools, let each child dig his or her candle out of the sand.
7. Cut the strings to the proper length for a candlewick.
8. After the children take their candles out of the sand, an adult can dip each one once in hot wax (using the wick as a handle). This assures that the sand will not fall off of the candle.

More to do

Art: Let each child make a wax hand print. Instead of digging a hole, each child can make her hand impression in the sand, fill it with wax and dig it out. You can also make footprints like this. These impressions make great gifts.

Barbara Saul, Eureka, CA

Sea Collage

5+

Science skills

This is an artistic activity to develop children's fine motor skills.

Materials

Heavy white cardboard about 6" x 9" (15 cm x 22.5 cm), or matboard or foam board scraps or cut-up gift boxes
White glue
Bits of driftwood
Sand
Sponges
Blue and green dry tempera paint
Small shells
Pebbles from the beach

What to do

1. This activity is good to use in the fall as children talk about their beach trips and bring their collections to school. The collages may inspire group conversation about the sea. Science discussion should include the textures involved, noting how the churning waters and sand smoothes the stones, driftwood and shells.
2. Use a damp sponge dipped in the dry paint to color the cardboard slightly. Wipe the sponge gently across the surface to suggest waves.
3. Dribble white glue on the cardboard.
4. Arrange the shells, pebbles and driftwood on the glue.
5. Sprinkle the entire collage with sand.
6. Allow it to dry, then hold it upright and tap to remove excess sand.

More to do

More science: If you can arrange to use a rock tumbler, the children could see the churning of the sea and sand in action.

Mary Jo Shannon, Roanoke, VA

3+

Going on a Bear Hunt

Science skills

Children practice counting and working together to bring the bear to its cave.

Materials

Brown paper ovals, each with a bear paw print on it, about 10" (25 cm)
Six slips of paper numbered 1 through 6 in a small box or paper bag
Tape
We're Going on a Bear Hunt by Michael Rosen
Optional: picture of a house, a brown bear, a stream, mountains, a forest and a meadow

What to do

1. Discuss a brown bear's habitat with the class and read *We're Going on a Bear Hunt.*
2. Tape the bear paw prints to the floor in a track, starting at "home" (a picture of a house could be taped next to the first paw print) and ending at the bear's cave (a picture of a brown bear could be taped next to the last paw print). Along the way, pictures of a stream, mountains, etc. can be taped next to various paw prints.
3. One child becomes the bear, while other children take turns drawing numbers from the box or bag. The "bear" can advance only as many paw prints as the number drawn. The whole class helps count the steps. By the time the last number is pulled, the "bear" should reach his home.

More to do

More science: This activity can lead to a discussion of identifying various animal tracks. Good books for this discussion include *Whose Footprints?* by Molly Coxe and *Crinkleroot's Book of Animal Tracks and Wildlife Signs* by Jim Arnosky.

Related books

Bear by John Schoenherr
Sleepy Bear by Lydia Dabcovich

Christina Chilcote, New Freedom, PA

3+

Bear's Snack Time

Science skills

As children eat a bear's snack, they are encouraged to ask questions about nature.

Bears

Materials

One small paper plate and paper cup per child
Blueberries
Apple slices
Walnuts
Goldfish crackers
Bottles of spring water
Blueberries for Sal by Robert McCloskey
Carrot sticks
Squeeze bottle of honey
Napkins or paper towels

What to do

1. This activity could culminate in a discussion on a bear's diet: fruit, nuts, berries, roots, fish and meat.
2. Read *Blueberries for Sal* to the children.
3. Serve each child a "bear snack"—fruit (blueberries, apple slices), nuts (walnuts), roots (carrot sticks), and fish (goldfish crackers). Add a dab of honey on each plate. Give cups of cool spring water. Be prepared to hear growling!
   Note: in some rare instances, children can have an allergic reaction to honey or nuts. Check with parents before you serve honey or nuts.

More to do

More science: Compare the food in the bear's snacktime to the food other animals eat.
Snack: Have a rabbit snacktime (carrots, lettuce, strawberries, etc.). Have a bird snacktime (sunflower seeds, blueberries or raspberries, gummi worms, etc.).

Original song

Sing to the tune of *"Frère Jacques."*

Berries and fruit
Meat and root
Help bears grow,
Grow, grow, grow.
Eat a little fish,
Some honey if you wish,
And grow, bears, grow.
Grow, bears, grow.

Related books and recording

The Bear That Heard Crying by Natalie Kinsey-Warnock and Helen Kinsey
Every Autumn Comes the Bear by Jim Arnosky
"The Teddybears Picnic"

■ *Christina Chilcote, New Freedom, PA*

3+

What Do Bears Eat?

Science skills
Children develop their use of language in this activity.

Materials
A variety of berries
Assortment of nuts
Honey

What to do

1. Talk about what bears eat and where bears find their food.
2. Have a bear food tasting party.

More to do

Math: Make a graph of the children's food preferences.

Related book
Jamberry by Bruce Degen

Holly Dzierzanowski, Austin, TX

4+

Bears

Science skills
Children practice communication skills as they discuss and learn about bears.

Materials
Pictures or a book showing different kinds of bears
Paper bags and brown construction paper
"Grandpa Bear's Lullaby" by Jane Yolen from *Dragon Night and Other Lullabies*
Glue
Scissors

What to do

1. Display the pictures of the different kinds of bears so that all children can view them. Ask the following questions: What are these? (Bears) Does anyone know the names of these bears? (Polar bear, Black bear, Grizzly bear, Brown bear, etc.) How are the bears different and the same?

Bears

2. Tell the children that bears can walk on two legs and also on all four. Children can imitate a bear walking each way.
3. Discuss the term "hibernation."
4. Read the poem "Grandpa Bear's Lullaby" to help explain hibernation.
5. Sing "Going on a Bear Hunt" or "The Bear Went Over the Mountain." When singing the latter, walk like a bear.
6. Open a paper lunch bag and fold it in half. Have children rip pieces of brown construction paper and glue it on three sides of the bag so it looks like a cave. Have the children cut out a picture of a sleeping bear and glue it inside the paper bag. The children have their own hibernating bear.

More to do

Dramatic play: Have the children bring in their favorite teddy bear, along with a beach towel, pair of sunglasses and a hat. Read *Teddy Bear's Picnic* and then have a teddy bear picnic for snack or lunch.

Related book and song

Teddy Bear's Picnic by Jimmy Kennedy
"The Bear Went Over the Mountain"

Susan L. Mahoney, Patuxent River, MD

3+

For the Birds

Science skills
The children practice fine and gross motor skills as they observe and classify.

Materials

String cut in various lengths
Dried grasses (available at craft or florist shops)
Cardboard
Yarn cut in pieces
Raffia cut in pieces

What to do

1. Beforehand, hide the materials listed above in various places either inside or outside on the playground. Go on a bird nest hunt with the children so there will be a real one in the classroom that they can examine.
2. Talk about nests as homes for birds.
3. Explain to the children how the bird builds its nest—one stick, piece of paper, scrap of yarn at a time—and that birds have to hunt to find the materials they need.
4. Back in the classroom, tell the children it is their turn to build a nest and that everything they need is hiding somewhere in the classroom (or yard).
5. Allow the children to create birdnests with the materials they find.
6. Challenge older children to construct a nest like the birds do, one piece of material at a time, so that they have to fly back and forth repeatedly, gathering materials.

More to do

Games: Use pictures of birds for matching games.
More science: Play a tape of real bird songs for the children. • Visit a local aviary or a well-stocked bird-oriented pet store. • Use binoculars to watch birds as they fly and work on their nests. • Talk about other animals and where they live. Also talk about birds that do not live in nests. • Collect a variety of pictures of birds and other animals. Have the children sort the pictures into two categories: birds and not birds.
Music and movement: Do creative movement exercises in which the children fly to music.

Original poem

A twig, some grass, a piece of string,
A bird's nest built up in a tree.
Wait awhile, the eggs will hatch.
And there will be babies to see!

Birds fly high, up in the sky.
Graceful wings in flight.

Birds

They search for food and things to eat,
And return to their nest at night.

■ *Linda Ford, Sacramento, CA*

Helping Birds Build Their Homes

3+

Science skills
Children use numbers, observation and fine motor skills.

Materials
Scraps of yarn about 2" to 4" (5 cm to 10 cm) long
Lint from clothes dryer

What to do

1. In early spring, read about birds building nests, then plan this activity to assist them.
2. Let the children count ten pieces of yarn, then tie a longer piece of yarn around the bundle in the middle.
3. Tie a piece of yarn around a ball of lint.
4. Tie all these materials to bushes on the playground and watch them disappear as birds look for materials to build nests.

More to do
More science: Examine the yarn and the lint with a magnifying glass. Introduce the term "fiber." Discuss how washing and drying clothes removes some of the fibers from the material. Relate this to clothing wearing out. What else removes fibers? (friction) Which parts of clothing wear out first? (knees, elbows) Why?

■ *Mary Jo Shannon, Roanoke, VA*

Weaving a Nesting Branch for the Birds

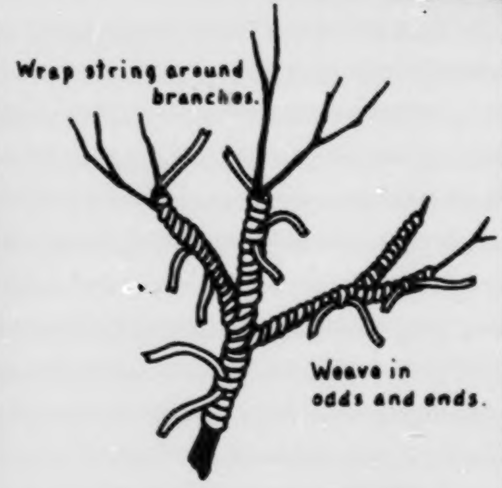
3+

Science skills
Children are fascinated to see that their creations are helping the birds to build homes.

Materials
Forked branches
String or twine
Odds and ends such as cotton, sheep's wool, yarn scraps, animal fur, string, thread, ribbon

What to do

1. Collect forked branches, one per child, of a size easily handled by the children. Show the children how to wrap string or twine around and around the fork of their branch, fairly tightly.
2. Then the children weave the odds and ends in and out loosely.
3. Hang the branch outside where birds can safely find the bits to use in building their nests and where children can watch the birds.


Wrap string around branches.
Weave in odds and ends.

More to do

Games: Play the circle game "Bluebird."
More science: Children make individual nesting balls to take home by stuffing old onion bags. • Look at a collection of nests to see how differently they are made and to see bits of litter that the birds have used in addition to natural materials. • Take a walk during the winter to see abandoned nests in the trees. • Feed the birds year round. Make bird feeders from milk cartons or by covering white pine cones with peanut butter and rolling in seeds.

Related books and songs

Have You Seen Birds? by Joanne Oppenheim
Mr. and Mrs. Bird and Their Family by Daniel Boillat
Mr. and Mrs. Bird Build a Nest by Daniel Boillat
A Year of Birds by Ashley Wolff
"All the Birds Sing" from *Sing Through the Seasons*
"Spring Is Coming" from *Pentatonic Songs* by Elizabeth Lebret

Linda Atamian, Charlestown, RI

3+

Bird Nests

Science skills

The children use fine motor activity to build a real bird's nest, and they are encouraged to wonder about nature.

Materials

Cup (250 ml) of soil, or more
Spoon
Assortment of grasses
Water
Straw
Paper

What to do

1. Mix the soil and water with a spoon until it holds together.
2. Make a nest shape from grasses and straw.
3. Put mud under and in nest until the nest holds together.
4. Place the nest on paper to dry.

More to do

More science: Take a nest nature walk and look in trees to see how many and what kinds of nests are there. Read and look at books to see various nests and birds that build them. • Invite a carpenter to the classroom to build a simple birdhouse to put out for the birds.

Marilyn Harding, Grimes, IA

Bird Watching Binoculars

3+

Science skills

Children develop observation skills using binoculars that they make.

Materials

Cardboard tubes, cut into 6" (15 cm) lengths
Yarn or string, cut into 2' (60 cm) lengths
Black paint
A children's book about birds
White glue
Hole punch
Brushes
A bird identification guide for the teacher

What to do

1. Tell the children that they are going to make binoculars to watch birds with.
2. Ask each child to paint two tubes black.
3. Help each child glue the two tubes together side-by-side.
4. Read the children the book about birds while the glue dries.
5. Use the hole punch to make holes in the outside edges of the cardboard tubes.
6. Tie one end of the yarn to one hole and the other end to the opposite hole, to make straps to put over the children's heads to hold their binoculars around their necks.
7. Take the children on a bird watching walk. Write down which birds and how many of each kind they see.
8. Set up a bird watching area out of one of the classroom windows. Put out birdseed and put the binoculars by the window for the children to observe the birds.

More to do

Field trip: Schedule a field trip to a local wildlife area or zoo to watch the birds.
Language: When the class returns to the room, write a class story about the birds the children saw, and make a graph.
Math: Count how many of each kind of bird the children saw.

Barbara Saul, Eureka, CA

4+

Birds of a Feather

Science skills
Children use all their senses to observe bird feathers and are encouraged to ask questions about them.

Materials

Variety of feathers from one type of bird, such as body, wing, tail and down feathers (these can be obtained easily from pet shops or bird owners, but be sure to get clean feathers)
Magnifying glasses
Balance or scale and gram weights (for older children)
Note: Down feathers are very fragile and "ball up" if handled roughly. The easiest way to transport them from the bird to the class is to lay them gently on a piece of felt, then peel them off as they are needed for the activities.

What to do

1. Look at the feathers without magnification. Observe and discuss similarities and differences in size, shape, color and texture. Following are some observations, in addition to color, that children may make. Wing feathers are slightly curved. The quill on a tail or wing feather is long and thick to anchor it securely to the bird's body. These feathers are used to steer the bird in flight and have to endure a great deal of pressure from the air. The quills on body feathers are small. These feathers protect the bird from weather and sun. They don't push against the air to help the bird fly, so they do not have to be attached as securely as wing and tail feathers. Down feathers are fluffy and sticky with very little quill. These are usually hidden under the other feathers and help keep the bird warm.
2. Allow children to touch the feathers. Which are softest?
3. Drop different feathers from equal heights and observe how they fall. Some spin, some float. All feathers do not fall at the same speed.
4. Use magnifying glasses to observe the feathers. Children can describe or draw what they see.
5. Older children may want to determine how many feathers it takes to weigh a gram. Estimate the number of feathers it will take. Use a balance and a one gram weight to check predictions. Do feathers weigh very much?

More to do

Art: Use feathers as paintbrushes to paint pictures about birds or nature. • Explain that feathers from large birds were used as pens long ago. Use large feathers and paint or ink to practice writing and drawing. • Use decorative feathers purchased from a craft store to glue onto an outline drawing of a bird.
More science: Compare and contrast feathers from different breeds of birds for size, color, texture, etc. • Look at pictures of birds (or look at a real bird) and discuss which feathers are clearly visible when a bird is at rest. Feathers tend to blend together on a bird and downy feathers are rarely visi-

ble. • Observe a pet bird, a bird outside the classroom or a bird at the zoo preening or grooming itself. Birds take good care of their feathers so they stay healthy and are always ready to fly.

Related book
How to Hide a Parakeet and Other Birds by Ruth Heller

Kim Arnold, Big Flats, NY

Christmas Tree for the Birds

4+

Science skills
Children use their fine motor skills to make a gift for the birds, then observe as the birds eat the gift.

Materials
Yarn, cord and blunt needle
Dry cereal
Pine cones
Solid shortening, such as Crisco
Fruit and berries
Bird identification books
Tape
Pipe cleaners
Peanut butter
Birdseed
Popcorn

What to do

1. Cut lengths of yarn and wrap the ends with tape. Let the children string dry cereal and then tie the ends of the yarn together.
2. Twist pipe cleaners around pinecones to make a handle. Mix together half peanut butter and half shortening. (Birds need fat to stay warm. Peanut butter needs to be mixed with solid shortening so their beaks don't stick.) Spread this mix on the pine cones. Roll them in birdseed.
3. Using a blunt needle and cord, thread fruit, popcorn and berries.
4. Decorate an outdoor tree or bush that you can observe from inside with these bird treats.
5. Watch and identify the variety of bird (or squirrel) visitors.

More to do
Art: Paint with feathers.
More science: Set up the science table with birdfeeders, bird books and feathers. • Dissect a bird nest. List what's found inside.

Related books
Are You My Mother? by P. D. Eastman
Have You Seen Birds? by Jeanne Oppenheim

Teresa J. Nos, Baltimore, MD

4+

Downy Duckling Puppet

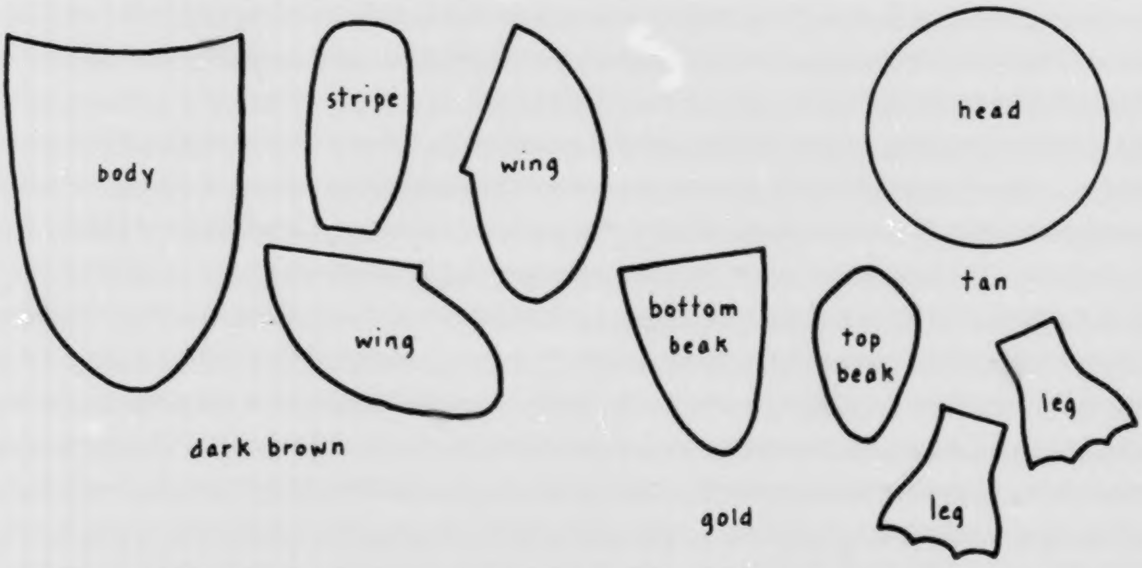
Science skills
Making a puppet encourages children to use fine motor skills and ask questions about birds.

Materials

- Brown lunch bags
- Tan, gold and brown construction paper
- White glue
- Pencil
- Brown and black markers
- Scissors
- 12 mm wiggle eyes
- Duckling pictures

What to do

1. Compare pictures of yellow pond ducklings and brown mallard ducklings.
2. Enlarge the patterns.
3. Trace the patterns on appropriate colors of construction paper and cut out.
4. Using the lunch bags upside down, glue the bottom beak under bag flap.
5. Glue the round head on the topside of the bag flap.
6. Trim off the corners of the bag so only the circular head shows.
7. Glue the top beak (gold) on the head circle. It should be slightly smaller than the bottom beak.
8. Round the bottom of bag.
9. Glue on the brown back.
10. Glue the brown wings in between side folds.



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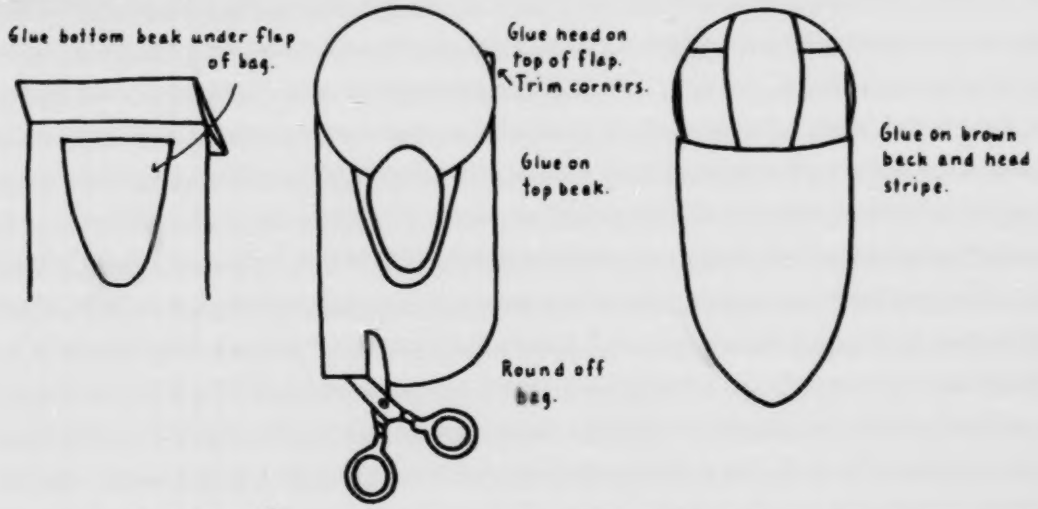

Glue bottom beak under flap of bag.
Glue head on top of flap. Trim corners.
Glue on top beak.
Round off bag.
Glue on brown back and head stripe.

11. Glue the legs underneath body front.
12. Color with brown marker on the head and body. Allow some lighter background paper to show, resembling downy feathers.
13. Glue on the 12 mm wiggle eyes.
14. Make two nostril ovals on the top beak with a pointed black marker.

More to do

Games: Children squat and try to walk like ducklings and flap their arms like wings. • Each child dramatizes being a different animal. Others guess what they are. • Children can use duckling puppets as they sing songs or chant poems about ducklings.

More science: Show a real duck egg and compare it with a chicken egg, a bird egg, a goose egg and, if possible, an ostrich egg. • Bring in pictures showing the shape and coloring of other ducks such as the Hooded Mergonser Duck, the Pintail Duck, the Ringed Teal Duck, the Shoveller Duck, the Spot-billed Duck and the Ruddy Duck. Show carved wooden models or plush toys. • Discuss why the female duck's plumage is not as pretty and bright as the male's.

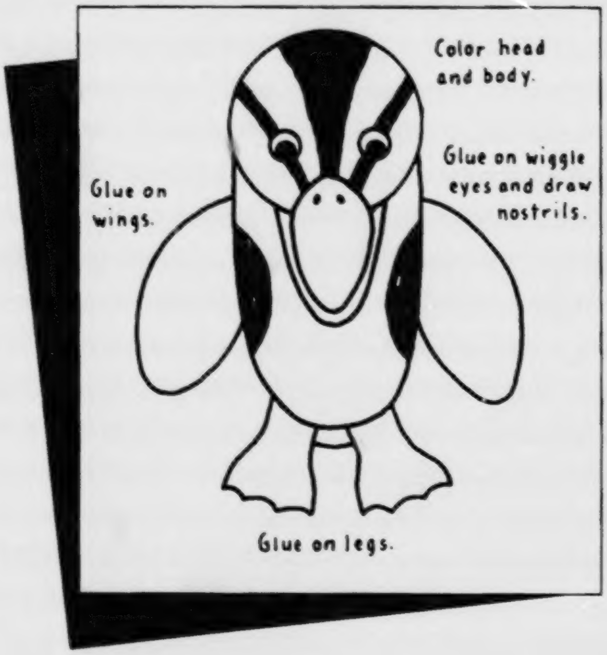
Original poems

Fuzzy Ducky

Little fuzzy ducky yellow,
You're a funny little fellow.
You say quack quack when you talk
And you wiggle waddle when you walk.

You swim around the pond with ease.
Your feet are webbed and you have no knees.
Then quick as a wink, bobbing down you go,
Looking for some worms below.

I'll come and watch you every day
'Cause that's more fun than other play,
And bring some crumbs and throw them, too.
Gee, I wish that I were you.



Animal Fair
I like to pretend
I'm in an animal fair.
I can be most anything
Like a lion, giraffe or bear.

I walk with stiff legs
And hold my head up high
And I think I am a giraffe
Eating leaves off trees in the sky.

I make my arms into a trunk
And hunch my back up round.
An elephant's trunk sways to and fro
Just inches from the ground.

I put my feet together
And hop just like a bunny,
Then hold my hands up high for ears.
I wonder if I look funny?

I try to be a little duck
But that's the hardest of all.
I sit down on my heels and walk,
And every time I fall.

I look for all the animals
In books and on TV—
There are so many creatures
I can pretend to be.

Related books
Make Way for Ducklings by Robert McCloskey

■ Mary Brehm, Aurora, OH

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Make a Bird Book

4+

Science skills

Children practice observation and fine motor skills.

Materials

Construction paper, white and other colors	Stapler
Crayons, markers, pencils	Date stamp

What to do

1. Encourage the children to design pages for a bird book. They may want to draw outlines of birds on some of the pages, to be colored in according to the colors of birds they see. In this book, they will be able to record the birds they observe, depending on their ages, by drawing pictures or writing words to describe the birds.
2. Let the children put the pages in the order they want.
3. An adult staples the pages together to make a book.
4. Help the children write their names on the front of their books.
5. Set up a bird-watching area in the classroom.
6. Tell the children that they are going to take turns watching birds. This activity can be one of your learning centers.
7. When the children see birds, ask them to finish a page of their bird book by adding bird beaks, tails and feet and colors to their bird outlines, or by writing words (for example: gray, small, long tail feathers) or making any other type of bird-descriptive picture they wish.
9. Stamp the date on the page (or let the children do it).
10. Let an adult write the place the bird was seen (playground, garden, etc.).

More to do

Math: Make a bird counting chart, and show the children how to make lines for every bird they see. Each day or week, ask the children to count how many birds they see.

More science: Have the children make bird books to take home and complete with their families. • Explain to the children about bird and animal migration and watch for migrating birds flying overhead. Talk about when the birds most often appeared and see if the children can figure out why certain birds are seen at certain times and not at other times.

Barbara Saul, Eureka, CA

4+

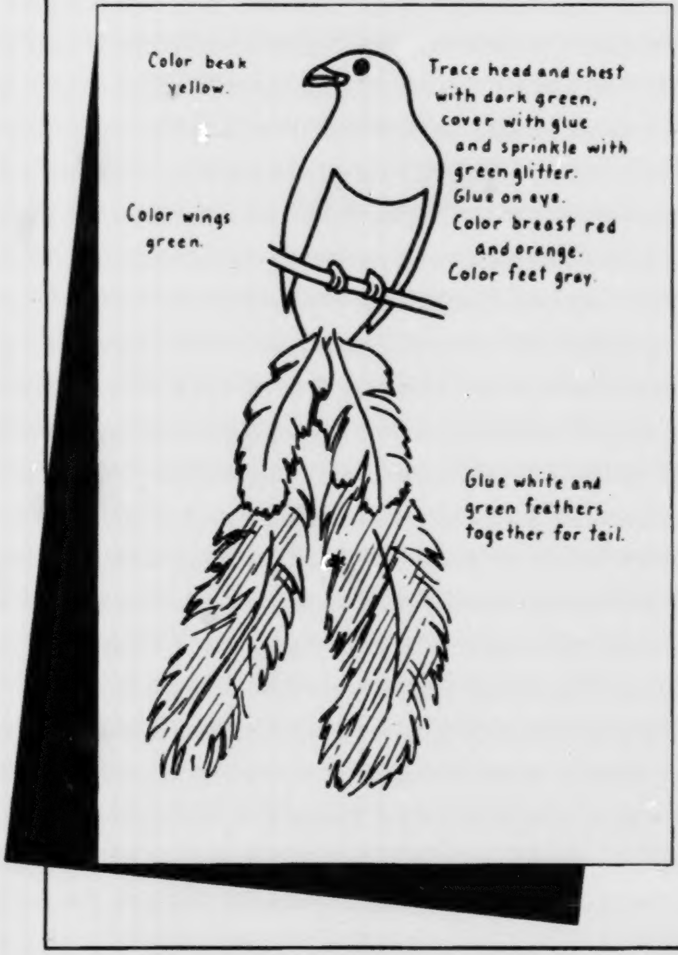
Dazzling Quetzal Bird

Science skills

Children use fine motor skills to create a picture of a dazzling creature.

Materials

3" x 5" (7.5 cm x 15 cm) index cards
Pencil
White glue
Short white feathers
Markers: yellow, light green, orange, red, brown, dark green
Pattern of quetzal bird
White drawing paper
Green glitter
Long green feathers
7 mm wiggle eyes


Color beak yellow.
Trace head and chest with dark green, cover with glue and sprinkle with green glitter.
Glue on eye.
Color breast red and orange.
Color feet gray.
Color wings green.
Glue white and green feathers together for tail.

What to do

1. Put one line of information on each of several index card. A child picks a card and the teacher reads the information, for example: quetzal birds live in the Central American and Mexican rain forests; quetzal birds are very colorful; male quetzals are the brightest color; fathers take their turn sitting on eggs; quetzals nest in holes in trees; the green quetzal tail feather is two feet long; the quetzal is pictured on the stamps and coins of Guatemala; the male quetzal jumps off the branch backwards to fly; only Aztec Indian noblemen were allowed to decorate their clothes with green quetzal feathers; quetzals catch falling fruit or insects to eat.
2. Before you start this project, find a good picture of a quetzal bird to use as a pattern. Then trace the pattern onto sheets of white paper, one for each child, and help them make their own quetzal puppets.
3. Color the feet with pencil.
4. Color yellow on the head crown and beak.
5. Color the breast red first, then orange on top of the red.
6. Color the side feather wing area with a light green marker.

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7. Trace the head and v-shaped neck with dark green, then cover the center of the head with white glue and sprinkle on green glitter.
8. Glue on the eyes.
9. Glue the white and green feathers together for the tail feathers.
10. Glue the top half of the white feather to form the quetzal tail at the base of the drawing.

More to do

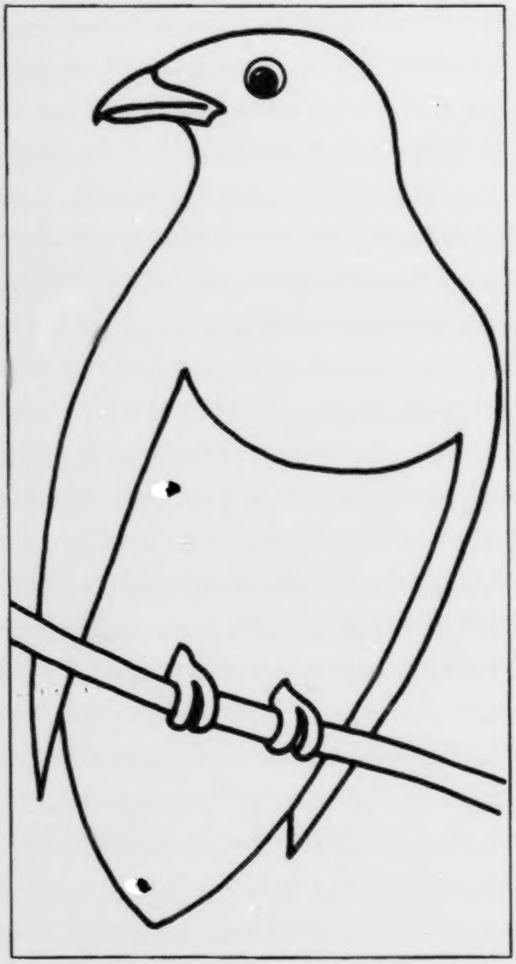
Math: Children sort feathers by size and count them.

More science: Find Guatemala on the globe; find Mexico. • Visit a bird aviary. • Show the children pictures of various birds. Discuss the variety of colors and shapes.

Original song and poem

Did You Ever See a Quetzal Bird?
(sing to the tune of "Did you Ever See a Lassie")
Verse 1: Did you ever see a quetzal bird from Central America? He looks this way . . .
Verse 2: Did you ever see his two green feathers
hanging down from his tail? He sits this way . . .

The Male Quetzal Bird
The quetzal bird is very bright green.
He is the most unusual bird you've ever seen.
His two green feathers hang low below the limb
On which he is sitting, viewing the trees around him.
When he goes in a hole that is his nest in a tree.
The tip of his tail feathers you can still plainly see.
When he wants to soar high in the blue, blue sky
He has to fall backward before he can fly.
An orange-red breast and yellow feather crown has he.
The male quetzal bird is the crown jewel of bird royalty.



Related books

A Is for Animals by David Pelham
Incredible Animals A to Z, National Wildlife Federation

■ *Mary Brehm, Aurora, OH*

3+

In a Heartbeat

Science skills
Children experience the beating of their own hearts.

Materials

Upbeat music
Stethoscope
Slow, soothing music
Alcohol wipes

What to do

1. At circle time, ask the children if they can show you where their hearts are. Ask the children to place their hands over their hearts and feel the beat.
2. Tell the children that the heart is a muscle that pumps blood throughout the body.
3. Put on some upbeat music and have the children stand and jog or dance in place for two minutes. Ask them to stop and feel their heartbeats this time.
4. Have children lie down and close their eyes for two minutes while you play some slow, soothing music. Ask them to check their heartbeats again.
5. If you have a stethoscope, let the children take turns listening to their heartbeats (use the alcohol wipes on the ear pieces and then wipe them dry between uses). You can ask children to imitate their heartbeats by clapping, jumping, etc.

Related book

Magic School Bus, Inside the Human Body by Joanna Cole

■ *Connie Heagerty, Trumbull, CT*

3+

Eyeglasses

Science skills
With observation and fine motor skills, children are encouraged to ask questions about eyes and vision.

Materials

Magazine pages with pictures
Eyeglasses
Microscope
"Spy" glasses
Small toy or real bug
Magnifying glasses
Binoculars

What to do

1. Say "You asked why I (teacher) and some children wear glasses. They help us to see better. We will look and see."
2. Pass around magazine pages with figures on them. Look at them normally.
3. Ask the children to look at them with eyeglasses, then with the magnifying glasses. "What's different? That's right—they're bigger."
4. Observe a small toy or real bug through the microscope.
5. Look at objects all around through spy glasses and binoculars.

Original song

Sing to the tune of "Frère Jacques."

I wear glasses, I wear glasses
To help me see, to help me see.
Everything looks bigger, everything looks better
Like it should be, like it should be.

Related book

Arthur by Amanda Graham

Marilyn Harding, Grimes, IA

Bendable Bones

3+

Science skills

Children observe as something hard and brittle becomes bendable.

Materials

Chicken bones
Vinegar
Water
Containers

What to do

1. Place the chicken bones into two different containers, one with vinegar and one with water.
2. Test the bones each day for about a week. See if they can bend easily.
3. The bones in the vinegar become bendable as the calcium dissolves.

Related book

The Skeleton Inside You by Philip Balestrino

Andrea Clapper, Cobleskill, NY

4+

Insides Out

Science skills

Children use fine motor skills and observation.

Materials

Large light-colored sweatshirt
Various colored calico
Scissors
Iron-on bonding material, such as "Wonder Under"
Pattern for organs
Iron
Fabric puffy paint

What to do

1. Wash and dry the sweatshirt.
2. Make paper patterns for organs and cut them out of calico (red for heart, blue for lungs, purple for liver, green for stomach, brown for intestines, yellow for kidneys).
3. Iron these onto the sweatshirt using the bonding material.
4. Outline the organs with the puffy paints and label them
5. Let the sweatshirt dry thoroughly.
6. Wear it in class to show what you'd look like inside out!

More to do

Dramatic play: Fill a box with medical props and bandaids so children can play hospital.
More science: Copy patterns and directions for parents to duplicate this activity on a child's T-shirt. • Display models of the invisible man and woman on science table.

Teresa J. Nos, Baltimore, MD

4+

All Thumbs?

Science skills

Encourages children's interest in nature and allows them to practice fine motor skills.

Materials

Snug pair of infant socks
A variety of 10 to12 small objects in a range of shapes and textures (e.g., a shell, a button, a paper clip)

What to do

1. Place the objects on a table and encourage the children to handle each item. Ask them to observe how their fingers and thumbs help them with this task.
2. Ask, "What do you think it would be like to pick things up without using your fingers or thumbs?" Allow time for responses.
3. Place a snug but not tight or binding infant sock over each hand of a child volunteer. Ask the child to pick up a few of the objects, one at a time. Promote comparisons with questions such as, "Which are easier to pick up, the smooth things or the bumpy ones?" Repeat this step with the remaining children.
4. After each child has had a turn, continue the activity by displaying pictures of animals that function without the use of fingers or thumbs. Discuss the ways in which these animals compensate.

More to do

Art: Invite your budding artists to illustrate lots of varied and unusual ways they might pick up small items if they did not have the use of their fingers and thumbs.

Related book

Hand, Hand, Fingers, Thumb by A. Perkins

■ *Marji E. Gold-Vukson, West Lafayette, IN*

Pasting Puzzles

4+

Science skills

Children use their predicting and inferring skills and practice fine motor activity.

Materials

Magazine pictures of people of various ages, both genders and differing body types
Envelope for each picture
Glue sticks
Construction paper

What to do

1. Cut the pictures into two, three or four pieces (use straight cuts).
2. Use the envelopes to keep the puzzle pieces together.
3. Give each child an envelope and a piece of construction paper large enough to hold the complete picture. Give younger children the puzzles with fewer pieces.
4. Let the children assemble the puzzles on the paper.
5. When the puzzles are complete, they may glue the pieces in place.

More to do

Language: Name body parts, gender of the person pictured and possible role (mommy, daddy, big brother, sister, baby, grandmother, etc.). This activity provides an opportunity for children to develop perceptual awareness of body parts, fine motor control and hand-eye coordination.

■ *Mary Jo Shannon, Roanoke, VA*

4+

Skin Match

Science skills
Children use classification and inferring skills and fine motor skills.

Materials

2" (5 cm) square pieces of animal "skin" samples: wallpaper, cloth samples like fake fur, reptile print, fish scales, lobster shell, chamois, leather, feathers, pieces of tree bark

Glue

Pictures of animals

Cardboard pieces, 4" x 6" (10 cm x 15 cm)

Pictures of fruits and vegetables

What to do

1. Glue the skin samples onto the cardboard, one per piece.
2. Cut out pictures of whole animals, and glue them on cards, again, one per piece.
3. Ask the children to match the skin samples with the cards of the whole figures.

More to do

More science: Encourage the children to categorize skin sample cards by common characteristics: soft, smooth, rough, etc. • Have a magnifying glass available to observe sample cards and children's own skin.

Related book

Animals Should Definitely Not Wear Clothing by Judi Barrett

■ *Susan R. Forbes, Holly Hill, FL*

4+

Tickle My Arm

Science skills
With lots of giggles children will work on social development.

Materials

A partner

What to do

1. At group time, buddy up for this silly, fun experiment in body awareness.

2. Taking turns, have one child close her eyes and lay her arm on the second child's lap.
3. Encourage the second child gently and slowly to tickle the inside of the first child's arm.
4. The first child tries to guess when the tickle reaches the area of the arm inside the elbow and says "stop."
5. The second child stays at the spot while the first child opens her eyes and sees how close her guess was.
6. Switch partners (no peeking!).

Dani Rosensteel, Payson, AZ

X-Ray Puzzle

4+

Science skills
Children use observation and inferring skills.

Materials

A book with large pictures of the human skeleton
Window
Manila envelopes
Old X-rays
Scissors
Tape or gum adhesive

What to do

1. Read the book about skeletons to the children. Let them look closely at the pictures.
2. Collect discarded X-rays from a hospital or doctor's office.
3. Cut X-rays with scissors into various shapes.
4. The children assemble the X-rays at a window using tape or gum adhesive.
5. Remove the adhesive before returning the pieces to the envelopes.

Related book

A Book About Your Skeleton by Ruth Belov Gross

Susan R. Forbes, Holly Hill, FL

Bag Bodies

5+

Science skills
Children learn fine motor skills and are encouraged to ask questions about nature.

Materials

Look Inside Your Body by Denice Patrick

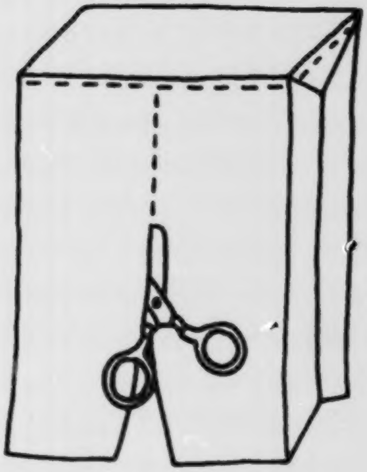
For each child you will need:

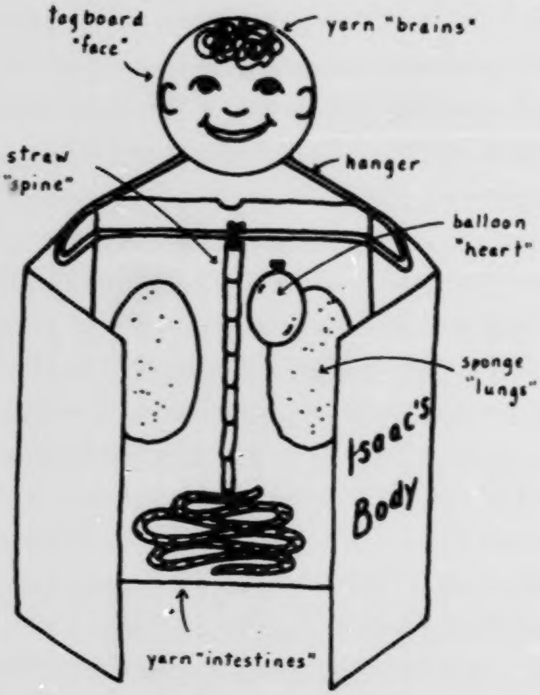
Large brown grocery sack
String
Tagboard circle
Red balloon
Brown yarn
Hanger
Dried hollow noodles or straw sections
Gray yarn
Two oval sponges
Masking tape

What to do

1. Read the book about the body.
2. Cut up the middle of a grocery bag and in a circle around the bottom.
3. Write (child's name) Body on the outside of the bag.
4. Bend and attach a hanger to the inside of the bag.
5. String noodles or straw sections, and hang them from the hanger to form a spine.
6. Decorate the tagboard circle to look like a child's head. Glue a gray yarn brain to the top of the head.
7. Blow up the red balloon to heart size, tie it off and attach it to the inside of the bag with masking tape.
8. Hot glue two oval sponges to the inside of the bag to form lungs. Sponges must be completely dry.
9. Glue brown yarn intestines near the bottom inside of the bag.

More to do




tag board "face"
yarn "brains"
straw "spine"
hanger
balloon "heart"
sponge "lungs"
Isaac's Body
yarn "intestines"

BEST COPY AVAILABLE

Bodies

Bookmaking: Create "All About Me" books with name, family picture, self-portrait, home, address, etc.
Circle time: Learn fingerplays about the body.
Games: Exercise the body when you discuss the heart.
Math: Graph children by characteristics such as eye color, hair color, etc.
Music: Sing songs about the body.

Kimberle S. Byrd, Kalamazoo, MI

Bumps and Bruises

5+

Science skills
Children learn from their own bodies through observation.

Materials
Five pieces of white paper
Crayons or markers
Book or poster that shows the veins and arteries of the human body

What to do

1. Beforehand, draw a circle on each of the five pieces of paper, and color and number them.
2. Show the children the book or poster picture of the veins and arteries of the body. Explain that the job of the veins and arteries is to carry the blood throughout the body. Have the children look at the inside of one of their wrists. Sometimes we can see some of the veins!
3. Explain that right under and very close to the skin are something called blood vessels. They are like veins, but much smaller.
4. Ask the children to stretch out their legs and look for any "colored marks or circles." (This is easiest if it is "shorts" season, but pant legs can be rolled up.)
5. Ask if anyone knows the name of these "colored circles" (bruises).
6. Explain that bruises occur when the blood vessels break under the skin. When a blood vessel breaks, it bleeds and the blood goes into the skin. This is how the bruise gets its color.
7. Ask the children if they can think of ways the blood vessels could get broken under our skin (falls, bump into things, etc.).

More to do

Art: Ask the children to trace their hands on black construction paper and use scissors to cut out the handprints. Provide white straws that have been cut into 1" (2.5 cm) pieces (older children can cut their own straws). The children can then create "veins" by gluing the straws on to the handprint.

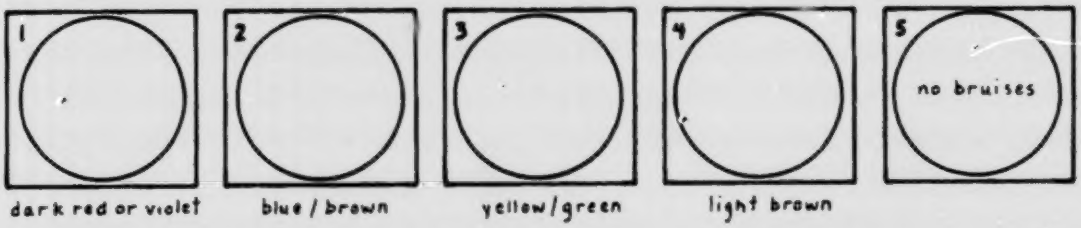
Cooking: Bring in "bruised" fruit such as apples, bananas and pears. Use child-safe knives and ask the children to remove the bruised skin area of the fruit. Examine and discuss how they think fruit could get bruised. Help the children peel and cut the fruit to make a fruit salad. Serve for a snack.

Original song

Bumps and Bruises
(sing to the tune of "London Bridge")
Bumps and bruises by falling down,
Hitting the ground,
Running around.
Bumps and bruises by falling down,
That's how they happen!

Related book

How It Works: The Human Body by Kate Barnes



Kathy A. Lone, Sioux Falls, SD

5+

Fingerprint Fun

Science skills
Children use observation and classification skills.

Materials

Ink pad
Magnifying glasses
Paper, two small pieces per child

What to do

1. Ask each child to press a pointer finger on the ink pad and then press the fingerprint on one small piece of paper. Repeat with the other pointer finger.
2. Encourage the children to explore their fingerprints with the magnifying glasses.
3. Explore other children's fingerprints.
4. Mix up the pieces of paper and try to find the matching fingerprints.

More to do

Language: Make a class book for each child containing the sentence, "The unique thing about me is ________.".

Math: Measure hands with links, cubes, etc.
More science: Discuss the fact that each person's fingerprints are different and that this tells us apart. Discuss how we all look different and are unique.

Related books
Bein' With You This Way by W. Nikola-Lisa
Here Are My Hands by Bill Martin, Jr. and John Archambault

Amy B. Lieberman, Oxford, MA

Family Likenesses

5+

Science skills
Children classify, graph and think about similarities and differences.

Materials
Paper
Pencils

What to do

1. Show the children how to make a chart of their family members. Help the children list their parents, siblings and put their own name down one side of the paper.
2. Across the top, put categories: hair, eyes, skin color and height.
3. Break the categories down even more, for example, under hair, put blonde, brunette and black. Under eyes, put green, blue, brown and hazel. For skin, put light medium and dark and under height, put short, medium and tall.
4. Draw lines vertically and horizontally to make boxes for the categories.
5. Make an X in the box across each of the choices that fit your parents, your siblings and yourself.
6. Do you have physical likenesses of both your parents?
7. Add other family members, such as grandparents, aunt and uncles to the chart.
8. After everyone is through, take some time to let each child show her chart. Help her identify similarities and differences among people listed. We are each unique but we also share some common family traits, don't we?

Related books
Are You My Mommy? by Carla Dijs
Are You My Mother? by P. D. Eastman
Black, White, Just Right! by Marguerite W. Davol

Monica Hay-Cook, Tucson, AZ

3+

Kitten Song

Science skills
Children learn about kittens with two songs and are encouraged to ask questions about nature.

Materials
A copy of the song below, illustrated with kittens

What to do
After learning about pets, introduce the nursery rhyme, "The Three Little Kittens." Discuss what is real and what is make believe. Do kittens really wear mittens? Do kittens really have four paws? Then sing this song to the tune of "I'm a Little Teapot."

I'm a little kitten, I have four paws.
I don't have fingers but I do have claws.
My body is covered with soft, soft fur.
I like to meow and I like to purr.

Angela M. Williamson, Seven Devils, NC

3+

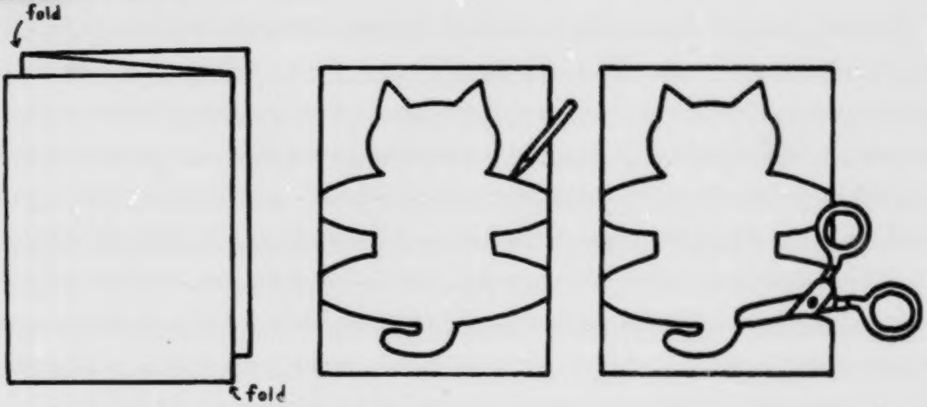
Three Little Kittens

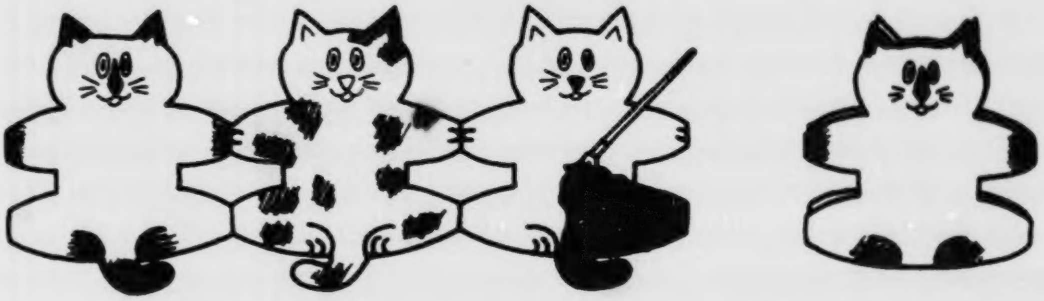
Science skills
Children use fine motor skills.

Materials
White construction paper, 12" x 7" (30 cm x 17.5 cm)
Scissors
Paintbrush
Crayons
Watercolor paint

What to do
1. Discuss various kinds and colors of real cats such as Calico, Tiger, Persian, Siamese.
2. Following are some traits of all cats: they like to play; they are curious; they make good pets; they like to stay clean; they like to sleep in the daytime; they like to roam and hunt for food at night. Cats are members of the same family as lions, tigers, panthers, cougars, jaguars and pumas. Mother cats pick up kittens by the backs of their necks and carry them in their mouths. This does not hurt the kittens because the skin is loose. (Have children feel their

Cats





elbow skin when their arms are extended and help them to realize that this does not hurt.) Cats have feelings: a purring cat is happy; if the fur on a cat's back stands up and it spits or claws, it is angry; a hungry cat's "meow" sounds different from the "meow" of fear. The claws of most cats can be hidden in their paws—the Siamese cat cannot do this. If a cat falls from a high place, it can twist or flip in mid-air and will always land on its cushioned paws.

3. Now help the children make their own paper cats by folding the white paper into thirds.
4. Make a cat pattern and trace it into the folded construction paper (you could do the tracing or the children could do it).
5. Cut the pattern out triple thick. Be sure the pattern touches both folds.
6. Unfold the paper and add crayon features.
7. Paint the cats with watercolor as desired, let dry.
8. Fold tails back and stand up.

More to do

Dramatic play: Dramatize "Three Little Kittens" or modify the above paper cat project by adding three pairs of mittens to the cutouts.
Field trip: Visit a pet shop and discuss the care of cats and kittens.
Movement: Pretend to be cats. Crawl, climb, pounce!
Snack: Make cat-shaped sugar cookies. Frost and decorate.
Special days: Have cat day—bring a cat object, a cat toy or plush cats for show and tell. Perhaps someone's parent could bring in their pet cat as a surprise.

Original poems

Five Little Kittens Fingerplay

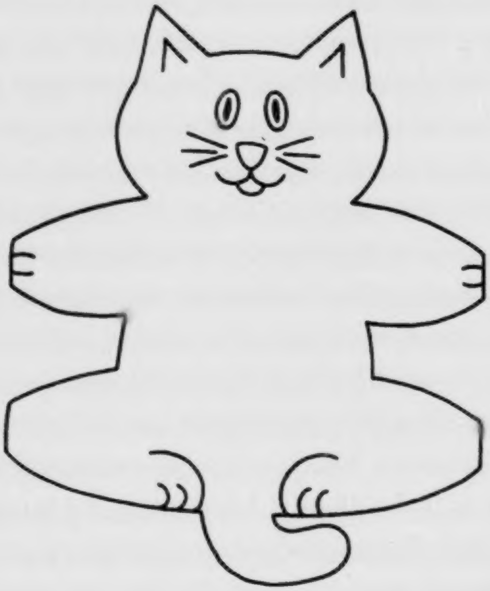
Five little kittens were playing one day.
The first little kitten jumped in the hay.
The second little kitten climbed up a tree.
The third little kitten chased a bumble bee.
The fourth little kitten went pounce, pounce, pounce.
The fifth little kitten caught a little gray mouse.
Then all the little kittens came calling mew,
mew, mew.
I think little kittens are cute, don't you?

Calico Cat

Soft calico cat, pretty calico cat,
Your splotches hide where you are at.
Please little cat won't you come into view?
Though I can't see you, I hear mew, mew, mew.

I like your colors, brown, black and gold
You bring good luck, so I am told.
Here's some milk for my favorite pet
Now I can see you, when the food you get.

Lick your paws when you are through
And clean your mouth and whiskers, too.
Then climb up and sleep in my lap.
I'll pet you while you take a nap.



Related books

Kittens Are Like That by Jan Pfloog
The Little Kitten by Judy Dunn

Mary Brehm, Aurora, OH

Cats

Cat Moves

5+

Science skills

With imagination and imitation, children practice observation and large motor skills.

Materials

Copy of the poem on a large piece of tagboard

Sentence strips, cut into phrases of the poem, for example, "Sleepy Cats" on one and "Creepy Cats" on another

Large open area, inside or outside

What to do

1. Read the following poem aloud to the children.

   Cats

   Sleepy cats
   Creepy cats
   Purry cats
   Furry cats
   Mousy cats
   Housey cats
   Ruggy cats
   Huggy cats
2. Reread the poem and have the children act out each line, for example at "Sleepy cats," children curl up like a cat and pretend to sleep.
3. Ask the children to think of more movements that cats make. Allow them to demonstrate their movements, and let their classmates make those moves.
4. Afterwards, reread the poem and talk to the children about rhyming words.
5. Pass out a sentence strip to each of eight children. Have each child try to find the child who has the rhyming word that goes with theirs (ex: ruggy - huggy). Repeat until each child has had a turn.

More to do

Art: Let each child pick one line of the poem to illustrate. Adults can write the line for younger children while older children can copy the words themselves.

Special day: Invite parents to bring pet cats for visits to the classroom.

Related book

Hannah and Jack by Mary Nethery

Barbara Saul, Eureka, CA

3+

Squish Bags of Color

Science skills

Children observe colors being mixed and use their fine motor skills in this tactile experience.

Materials

Resealable plastic bags, 12
Clear hair gel
Scissors
White construction paper, one piece per child
Construction paper circles of red, yellow, blue, green, purple and orange
Red, blue and yellow paint
Duct tape
Glue
Marker

What to do

1. Put 1 part red and 2 parts yellow paint into a resealable plastic bag with a ¼ cup (60 ml) of the hair gel.
2. Seal the bag and secure the top with duct tape.
3. Ask a child to squish the bag to mix the colors. What happens?
4. Repeat steps 1 to 3, using 2 parts yellow and 1 part blue in a bag with media mix, and then with equal parts of red and blue in a bag until all the bags are used.
5. Help the children chart the results with construction paper circles and glue on a piece of white paper, using + and = signs, for example, red + yellow = orange.

More to do

Art: Snip the corner of the resealable plastic bags and encourage the children to squeeze out the paint, making designs on finger paint paper or other shiny paper. This way the contents of the bags will not be wasted.

Original song

Colors (sing to the tune of "If You're Happy and You Know It")

Yellow and blue make green (the next part is said instead of clapping), don't you see
Yellow and red make orange, don't you see
Red and blue make purple,
Don't you see, don't you see?
All the colors you can make with these three!

Related books

A Color of His Own by Leo Lionni
Mouse Paint by Ellen Stoll Walsh
White Rabbit's Book of Color by Alan Baker

Glenda Manchanda, Bemidji, MN

Rose-Colored Glasses

3+

Science skills

The world looks different as children observe it through tinted glasses.

Materials

Glasses pattern	Pencils
Scissors	Tagboard or card stock
Tape	Sequins, glitter, glue and markers, optional

Rolls of colored cellophane (available at art supply stores)

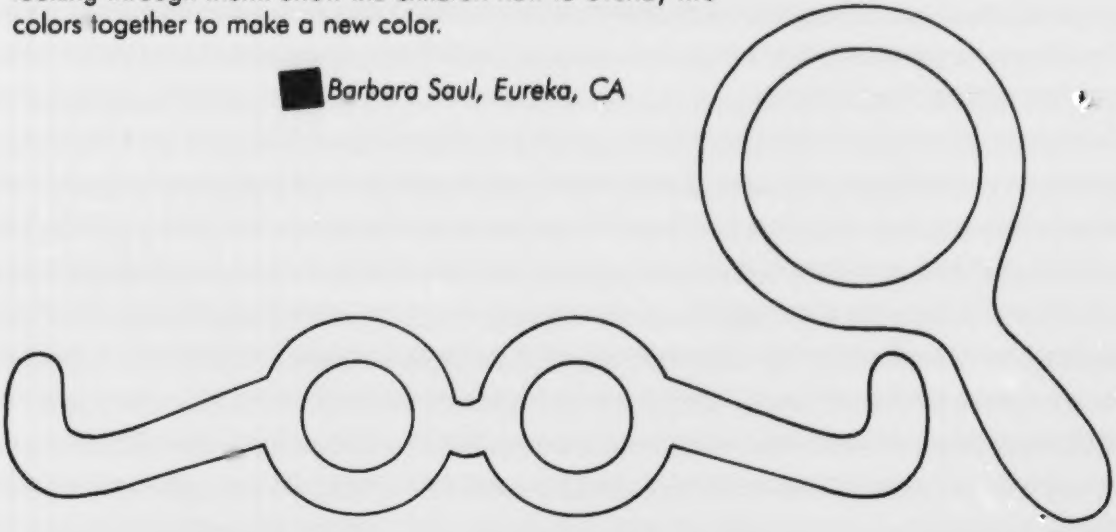
What to do

1. Trace the glasses pattern onto pieces of tagboard.
2. Cut the pattern out, including the "lens" areas. Steps 1 and 2 should be done by an adult for very young children.
3. Cut out two pieces of colored cellophane to fit over the lenses of each pair of glasses.
4. Tape the cellophane to the inside of each lens.
5. Let the children decorate the outside of their spectacles with glitter, sequins or markers.
6. Encourage them to explore their environment using their colored spectacles.
7. Ask them to trade their glasses for some of another color and see what everything looks like.

More to do

More science: Instead of glasses, make hand-held magnifying glasses. Put the colored glasses at a center and let the children explore looking through them. Show the children how to overlay two colors together to make a new color.

■ *Barbara Saul, Eureka, CA*



3+

Mixing Colors With Finger Paints

Science skills

Children enjoy finger painting as they practice observation and fine motor skills.

Materials

Painting shirts
Easel paper
Finger paints in primary colors: red, blue and yellow
Colored construction paper
Dish tub of warm clear water
Color wheel, optional
Tables covered with butcher paper or newspaper
Finger painting paper
Sponge and bowl of water
Dish tub of warm soapy water
Cloth or paper towels

What to do

1. Tell the children that there are three primary colors: red, blue and yellow. Explain the word "primary" means first and these colors are the first colors because when they are mixed together, they make other colors called secondary (second) colors. Tell them that today they are going to mix two of the primary colors to find out what secondary colors they make.
2. Divide the children into small groups.
3. Taking one group at a time, ask the children to put on painting shirts and roll up their sleeves.
4. On a covered table, place a sheet of easel paper and on top of that, a smaller sheet of finger painting paper.
5. Write the child's name on the back of the finger painting paper.
6. Wet each paper with a wet sponge and let the child pick two colors. Put 1 tablespoon (15 ml) of each color on his paper. If you are using tempera, also add 1 tablespoon (15 ml) of liquid starch.
7. Let the children use their hands to mix the paint and create a new color.
8. When the children are finished, lift the painting by the easel paper to dry elsewhere.
9. At another table, have an adult help each child make hand prints on the colored construction paper before the paint on their hands dries.
10. Ask each child as he finishes to wash his hands in the warm soapy water, then rinse in the clear water and wipe on a towel.

Barbara Saul, Eureka, CA

Mixing Colors With Frosting

3+

Science skills
Children observe color mixing by making their own tasty treats.

Materials

Graham crackers
Food coloring
White frosting
Toothpicks

What to do

1. Talk to the children about mixing colors. Ask them if they know which colors combine to make green, purple and orange. If they don't know, tell them that they are going to find out by experimenting with color mixing.
2. Demonstrate how to color the white frosting by adding food coloring to it. Mix batches of red, blue and yellow frosting.
3. Give each child a graham cracker and a toothpick.
4. Let each child choose two of the frosting colors to put on his graham cracker (use about 1 teaspoon or 5 ml of each color per graham cracker).
5. Let the children mix their colors with their toothpicks to see what secondary colors appear.
6. After the children tell you what color they made, let them eat their treat.
7. Steps 1-6 may be repeated with different color combinations.
8. For a follow-up, write a whole-class chart or story about which colors mixed together to make new colors.

More to do

Art: Ask the children which colors look warm, which colors seem cool? Encourage the children to color with just warm colors or just cool colors. Display the pictures and ask the children to dictate stories about them.
Math: Make a graph of the children's favorite colors.

Related books

Little Blue and Little Yellow by Leo Lionni
Lunch by Denise Fleming
Rainbow of My Own by Don Freeman
Who Said Red? by Mary Serfozo

Barbara Saul, Eureka, CA

3+

My Own Colors

Science skills

Children use their senses and observe colors.

Materials

Samples of Formica or other counter materials or linoleum (often available free of charge at large hardware stores)

Metal rings

What to do

1. Slip several samples on the metal ring and clip it closed.
2. For the youngest children, make sure the samples have rounded, not sharp, edges. These are the perfect size for small hands to carry. They are indestructible and wash up easily and make a satisfying noise when shaken.
3. Use the sample booklets to play an "I Spy the Color" game. Children take turns choosing one of the samples as the color everyone will look for.

Related books and recording

A Color of His Own by Leo Lionni
Color Dance by Ann Jonas
Mouse Paint by Ellen Stoll Walsh
"The World Is a Rainbow," by Greg and Steve

Tracie O'Hara, Charlotte, NC

3+

Playdough Color Mixing

Science skills

Children make observations and practice predicting, comparing and using fine motor skills.

Materials

Favorite playdough recipe and the ingredients
Red paste food coloring (available at cake decorating or craft stores; it will produce the correct color to make orange and purple)
Yellow and blue food coloring
Plastic gloves
Simple color chart

Colors

What to do

1. Mix the playdough according to directions, omitting the food coloring, and divide it into three equal portions. Note: Older children may enjoy making the play dough and adding the color with the teacher. You may use an entire batch of playdough for each color depending on the number of children in your class.
2. Put the plastic gloves on (to prevent coloring hands), and add red paste coloring to one portion of the playdough by kneading the color into the dough.
3. Add blue and yellow food coloring to each of the other playdough portions in the same manner. You will have three portions of playdough: one yellow, one red and one blue.
4. Gather the children at a table and give each child one small piece each of yellow and blue playdough.
5. Encourage the children to mix the colors. As they are working, ask questions to stimulate their thinking and to focus their observation. What is happening as you mix? What is the result?
6. Continue with steps 4 and 5 until the children have also mixed yellow and red, and blue and red.
7. Use a simple color chart to check the results.

More to do

Art: At the easel, have yellow, blue and red paints available for the children to mix. Are the results the same as the playdough experiment?

More science: Help the children make a color chart of their own using construction paper, markers or colored glue.

Related books

A Color of His Own by Leo Lionni
Mouse Paint by Ellen Stoll Walsh
White Rabbit's Color Book by Alan Baker

Glenda Manchanda, Bemidji, MN

Color Magic

3+

Science skills

Children observe cause and effect as they watch colors combine.

Materials

Colored transparent book report covers
Overhead projector

What to do

1. Cut the transparent book report covers to fit on the overhead projector.
2. Place a blue cover on the projector. This will reflect the color on the wall.
3. Place a yellow cover on the top of the blue one while singing the following song to the tune of Frère Jacques:

Blue and yellow, blue and yellow,
That makes green, that makes green.
Colors come together, colors come together,
As you see, as you see.

4. Repeat the song using other color combinations.

More to do

More science: Cut the transparencies into various shapes (circles, squares, triangles). Reinforce identifying shapes as well as colors.

■ *Dotti Enderle, Houston, TX*

3+

Color Collage

Science skills

Children must be sharp-eyed observers, and they practice fine motor skills.

Materials

Magazines
Glue or gluesticks
Hailstones and Halibut Bones by Mary O'Neill
Scissors (if skill level permits)
Cardboard figures of various objects

What to do

1. You can use this activity to introduce colors. The teacher makes large figures beforehand, one figure for each color. Examples:
   apple—red
   pumpkin—orange
   tree—green
   top hat—black
   sheep—white
   sun—yellow
   grapes—purple
   car—blue
   ballet slipper—pink
   bear—brown
2. Introduce a color by reading the poem about the color from Hailstones and Halibut Bones.
3. Encourage children to find items in the color discussed, for example, clothes, toys other objects in the classroom.
4. Give the children magazines and tell them to locate items in the magazine of the color discussed. If the children are able to cut, have them cut out the objects. If not, they can tear items or the teacher can cut them. Teacher may have to trim pictures to show a certain color.
5. Ask the children to glue the cut pieces onto your teacher-made shape until the entire shape is filled with the color. Repeat with the rest of the shapes.
6. Laminate and display the shapes in your classroom. You can make these figures each year to introduce colors, instead of purchasing the commercial color figure sets.

More to do

Language: Ask the children to dictate a sentence about the items they found and have the sentences follow a pattern. For example, Tommy found a red block. Eric found a red shirt. Write the sentences on chart story paper and distribute one to each child. Encourage the children to find their word on the chart story. Try to concentrate on the color words and children's names. • As a cumulative activity after all the colors have been introduced, make a book for the classroom library entitled *Our Favorite Colors*. The children can dictate a sentence using a pattern. For example, Mary said, "My favorite color is blue. The sky is blue, my shirt is blue and my lunch box is blue." The pattern should have the name of the child, name of the favorite color and a list of three things that are that color. The children can illustrate their sentences. Bind pages together and put into a book for your classroom library.

Math: Give the children items that are of varying colors, for example, buttons. Have them sort the items by color. The children can use unifix cubes and make a color pattern.

Deborah Chaplin, Hot Springs, VA

Color Detectives

3+

Science skills

Children use observation and large motor skills.

Materials

Cardboard magnifying glasses (enough for each child in the class)

What to do

1. Plan a color day each month. On that day the children may either wear or bring something in that is the color of the month.
2. The art activity as well as snack is centered around the color of the month on that day. For example, if the color is yellow, you might have bananas and lemonade for snack.
3. At circle time, each child has a chance to show what they brought or wore with the special color.
4. Then explain that you need some color detectives to help find all the red (or yellow, etc.) in the classroom. More than likely, every child's hand will go up! Give each child a magnifying glass to help search for the color.

Related book

Colors & Things by Tana Hoban

Cindy Winther, Oxford, MI

3+

Colors, Colors Everywhere

Science skills
All their senses are put to work as children make observations and use fine motor skills.

Materials
Index cards with a different color on each side

What to do

1. Give each child a colored card. One side has a common color, such as blue, brown or green. The other side has a less common color, such as red, orange or purple.
2. Head out for a nature walk and challenge each child to find natural items that match the colors on their card. (Encourage children not to pick every plant that matches.)
   Hint: children respond well to new words for Go and Stop or Come Back. For example, "peanut butter" might mean Go and "banana split" could mean Come Back or Stop. This encourages good listening skills.
3. Children can return for a new color card after matching items to their first card.
4. Periodically call a "time out to share" for the group. The teacher names a color and the children take turns sharing what they found to match (for example: Blue—sky, flower, rock, water).

More to do

Language: Read color poems from *Hailstones and Halibut Bones* by Mary O'Neill, and discuss the feelings created or inspired by different colors.
More science: Create a chart showing natural items and colors.

	Leaf	Flower	Rock	Bark
Red	X	X	X	
Blue			X	X
Green	X	X		

Karen Johnson, Grand Rapids, MI

Watercolors

3+

Science skills
Children practice observation and prediction and inference skills.

Materials

Two resealable plastic bags
Ice water
Hot water
Red food color

What to do

1. Pour 1 cup (250 ml) of ice water into a resealable plastic bag.
2. Drop in 3 drops of red dye, zip it shut and try not to jiggle the bag.
3. Watch what happens to the red dye. Check the time to see how long it takes the dye to turn all the water red.
4. The children are observing the process called "diffusion" which will cause the two different kinds of molecules to mix. The red dye molecules will spread from where there are more of one kind to where there are fewer of the same kind.
5. Next, pour 1 cup (250 ml) of hot tap water into another bag. Add 3 drops of red dye and seal. Observe how long it takes the dye to turn the water red. Are there differences depending on water temperature?

■ *Cindy Winther, Oxford, MI*

Where Are the Colors?

3+

Science skills
Children use all their senses to observe the relationship between color and light.

Materials

Scarf, fabric or washcloth
Drawstring bag
Flashlight

What to do

1. Put the fabric into the bag and draw it closed.
2. Let the children guess the color of the cloth. Allow them to feel it, smell it, listen to it, but not see it.

3. Take them into a very dark room and wait for their eyes to adjust.
4. Pull out the cloth. Can they see the color?
5. Admit a small amount of light. Does that help?
6. Shine the flashlight on the cloth. You must have light to see color.

More to do

More science: Explore shadows. How are they made? Why are they black? In the absence of light, there is no color. • Experiment with mixing colors and adding white and black. • Try doing puzzles, stringing beads and drawing while blindfolded. This kind of activity also builds an awareness of handicaps. Try using a cane to get around the room while blindfolded.

Related books

Brown Bear, Brown Bear, What Do You See? by Bill Martin, Jr.
The Colors by Monique Felix
White Rabbit's Color Book by Alan Baker

■ *Sandra Gratias, Perkasie, PA*

3+

Yellow + Blue = Green

Science skills

Children use fine motor skills and observe how colors mix.

Materials

Resealable plastic sandwich bags, one per child
Yellow finger paint
Duct tape
Spoon
Blue finger paint

What to do

1. For each child, put one tablespoon (15 ml) of yellow finger paint into one side of a sandwich bag, and one tablespoon of blue finger paint into the other side of the bag.
2. Seal and tape the top of the bag.
3. Encourage the children to gently squish both sides of the bag to combine the two colors. What color do they create?

More to do

Art: Finger paint with yellow and blue finger paint, mixing to make green.
Cooking: Make instant pudding and add yellow and blue food coloring to make green pudding, or add food coloring to cream cheese.
More science: Use yellow and blue food coloring and water in an ice cube tray to make green.

Related books and recordings

Colors Everywhere by Tana Hoban

Green Bear by Alan Rogers
Little Blue and Little Yellow by Leo Lionni
Mouse Paint by Ellen Stoll Walsh
Red Day, Green Day by Edith Kunhardt
"Colors" by Hap Palmer
"Parade of Color" by Hap Palmer

Kaethe Lewandowski, Centreville, VA

Find Your Color Game

3+

Science skills
In this matching game, children use observation, fine motor and classification skills.

Materials

Brown Bear, Brown Bear, What Do You See? by Bill Martin	Color chips or paint samples from a paint store
Wooden board	Cup hooks
Basket	Hole punch

What to do

1. Read *Brown Bear, Brown Bear, What Do You See?* to the children.
2. Give each child a color chip, then ask each child to find something in the room that is the same color as his chip. Children take turns naming their color and finding an object in the room that is the same color.
3. Take a wooden board and screw the cup hooks into the board.
4. Have available a set of color chips that duplicates the children's. Punch a hole in each chip and laminate it. (Formica color chips also work well.) Put the duplicate set of chips into a basket.
5. Ask the children to search through the basket for a matching color chip and then hang their pair on a hook.

Diann Spalding, Santa Rosa, CA

Flash of Color

3+

Science skills
Children practice observation skills with a beautiful light display.

Materials

Scissors	Colored plastic wrap or colored cellophane
Flashlights	Rubber bands

What to do

1. Cut squares of plastic wrap or cellophane large enough to fit over the heads of the flashlights and secure with rubber bands.
2. The children turn on the flashlights and shine the colored light beams around the room.
3. Other activities children can try include matching a blue beam to a blue object; trying to mix colors by shining two different colored beams on one spot; shining the light beam on a mirror and trying to make the reflection hit a predetermined target in the room; and experimenting with the overhead lights on and off. Is one condition better than another?

More to do

Art: The children can mix tempera colors, finger paint colors or food coloring to further experiment with color mixing.

More science: The children can make a pair of binoculars from empty toilet paper tubes and colored cellophane. They will see the world through different colors. ▪ Help children use the overhead projector to discover concepts of light and reflection. By moving the lens cover around, children will discover more about reflecting light. ▪ What other things will make a reflecting light? (Shiny spoon, a stainless steel tea kettle, even one child's book bag, as we discovered.)

Related books and recording

Light by Donald Crews
Round Trip by Ann Jonas
"This Little Light of Mine" by Raffi and various other recording artists

■ *Diane Billings, Marietta, GA*

3+

Magic Color Flow

Science skills

Children observe colors and how they diffuse.

Materials

Paper towels	Watercolor markers
Clear plastic cups	Water
Resealable plastic sandwich bags	Tape

What to do

1. Give each child one paper towel and their choice of a colored marker.
2. Encourage the children to draw on the paper towel with the marker.
3. When each child is finished with his picture, ask him to put the paper towel into a clear plastic cup half-filled with water.
4. Discuss the results with the children. (The color from the marker will diffuse into the water creating a jewel-like color in the water.)

5. Encourage each child to squeeze out his paper towel and unfold it. The lines of the drawing will have blurred and softened; the color will have spread throughout the towel (diffusion again).
6. You can then pour the water into a resealable plastic sandwich bag and tape it to the window as a sun catcher. If your theme is rainbows, each child could make one color of the rainbow, then display the sun catchers together as a rainbow in your window. (This is an excellent activity to do at an outdoor table on a nice day.)
7. Talk about the concept of diffusion which describes the way the color spreads through the water and the paper towels.

More to do

More science: The children can use two or more paint colors to experiment with color mixing.

Kim Merritt, Tallahassee, FL

Color Walk

3+

Science skills

Children make observations, ask questions about nature and practice fine and large motor skills.

Materials

Crayons, one per child
Cardboard
Marker
A place to walk in nature
Tape
Paper, optional

What to do

1. Give each child a crayon and tell him that on the walk he should look for and gather items the same color as his crayon.
2. Using a large piece of cardboard and tape, make a display of the crayons and the items that the children found to match. Alternatively, children could use their crayons to do rubbings of the items they find, rather than disturb nature by collecting the items.

More to do

Art: Encourage children to use crayons and paper on a nature walk to get a variety of textured rubbing samples.

Melissa Browning, Milwaukee, WI

3+

Colorful Nature Walk

Science skills
Children use all their senses for observation and also work on fine motor and classification skills.

Materials

A paper bag for each child

Markers, optional

What to do

1. Give a bag to each of the children. They may wish to decorate their bags.
2. Explain to the children that you are going to go on a nature walk, but this is not just an ordinary nature walk. It is a color nature walk! Tell the children that they will look for colorful natural items, such as a red leaf, a green piece of grass, etc.
3. Younger children can collect all of the colors. Older children can be grouped into "color teams," each assigned a specific color to look for. For example, the yellow team collects only yellow items.
4. Let the children explore the natural environment and have fun collecting.
5. Once back in the classroom, each child or group discusses what they found.
6. This is a great activity to do in the fall and spring to explore the seasons as well as reinforce color recognition!

More to do

Art: Make a collage with the items that were collected.

Language: Ask the children to record, in small books, what they collected. Younger children can draw pictures and dictate words. Older children can use inventive spelling to write the words.

Math: Make a graph of how many items the children found for each color.

Related books

Planting a Rainbow by Lois Ehlert
Red Leaf, Yellow Leaf by Lois Ehlert

Amy B. Lieberman, Oxford, MA

Mixing Colors Magic

3+

Science skills

In this activity, children use observation and prediction.

Materials

Red, yellow and blue paint
Paper for each child

What to do

1. Discuss the "magic" of mixing colors. Using paint, demonstrate to the children what happens when you mix two primary colors.
2. Give each child a small amount of paint in a primary color on one side of the paper and a small amount of another color on the other side.
3. Ask each child to fold his paper closed and press down from top to bottom.
4. Open the paper and see the colorful blots in a new color that the children have created.
5. Ask the children what picture they see in their painting and label the picture for them.
6. Cut the paintings into butterfly shapes and hang them around your room.

Related books and recording

Babar's Book of Color by Laurent De Brunhoff
Little Blue and Little Yellow by Leo Lionni
"Colors Song" by Hap Palmer

■ *Suzanne Maxymuk, Cherry Hill, NJ*

Rainbow Iceberg

3+

Science skills

An exciting experiment that allows children to observe color mixing.

Materials

Rock salt
Small bucket
Freezer
Paint aprons
Measuring cup
Water
Large bowl
Food coloring

What to do

1. Pour ½ cup (125 ml) salt into the bottom of the bucket. Fill the bucket with water and place in the freezer overnight.
2. The following day, take the bucket out of the freezer and turn it upside down in the large bowl. Ask the children to put on aprons.
3. The adult squeezes drops of food color onto the block of ice.
4. Encourage the children to touch, pet, feel and observe the ice as it melts and the colors blend. Discuss the melting ice and blending colors and ask for the children's predictions about what will happen to the ice and why. Remember that food coloring may stain skin and clothing.

■ *Dani Rosensteel, Payson, AZ*

3+

Color Exploration

Science skills

Children observe and use prediction and inference skills in this experiment.

Materials

Small clear plastic cups
Protected area (floor, tub, tabletop, etc.)
Red, yellow and blue dye

What to do

1. Fill three cups with clear water.
2. Dye each with a different primary color.
3. Let the children experiment by pouring some of the colored water into the clear cups.
4. Encourage them to mix the colors and try to discover which two colors make orange, purple and green. Did they create anything else?

More to do

Art: Once the children discover the color combinations for the secondary colors, move this concept into other areas. Make pictures by drawing with one color crayon or markers over another color. • Try blot/squash painting with two primary colors.
Food: Try mixing frostings of different primary colors to frost cookies with secondary colors.

Related books

A Color Sampler by Kathleen Westray
Color by Ruth Heller
Purple, Green, and Yellow by Robert Munsch

■ *Wanda K. Pelton, Lafayette, IN*

Colors

Color Dots

4+

Science skills
Children use fine motor skills and make observations about color.

Materials

- 4 small bottles of food coloring
- 8 index cards
- 8 clear plastic punch cups
- Red, yellow, blue and green 1" (2.5 cm) dots, purchased from stationery store

What to do

1. Set this activity up as a center. Fill each punch cup half-full with water. Assemble the cups in a row.
2. Create color cards by sticking color dots onto the blank cards, one color per card. Place one color card on the table in front of each cup.
3. Instruct the children to drop the same number of food coloring drops on the corresponding color cards into each cup and observe the resulting color.

More to do

Art: Children can experiment mixing colors using tempera paint.

Related book

Mouse Paint by Ellen Walsh

Joyce Montag, Slippery Rock, PA

Color Mixing

4+

Science skills
Fine motor skills come in handy as children observe colors they mix.

Materials

- Newspaper
- Food coloring or watercolor paints in red, blue and yellow
- Ice cube trays
- Eyedroppers

What to do

1. Place newspaper on tables.
2. Fill half of the ice cube sections with water colored with food coloring or liquid watercolor paints.

3. With the eyedroppers, the children can mix colors in the empty sections.
4. Add an assortment of clear containers for additional mixing.

More to do

Art: You might try other color mixing activities with the children: finger painting, easel painting, plastic color panels.

Audrey F. Kanoff, Allentown, PA

4+

Color, Shape and Texture

Science skills

Children use their observation skills to group and classify different items.

Materials

Two pieces of construction paper of contrasting colors, for example, orange and green
Cardboard shapes (prepared by an adult), 2" (5 cm) circles and 4" (10 cm) squares
Pencils
One piece of sandpaper
Children's scissors

What to do

1. Children trace the circles, two on orange and one on green construction paper, and one on brown sandpaper.
2. The children trace the squares, two on orange and one on green construction paper, and one on brown sandpaper.
3. Ask the children to cut out the circles and squares. (An adult should probably cut out the sandpaper circles and squares.)
4. The children mix up the squares and circles and put them in a pile.
5. Ask whether these things make a group. Children may think of a group of colored objects or a group of shapes. How could they be put into smaller groups that are more alike? (For instance, they might use color as a basis for grouping.) Are there any other ways of grouping the objects? (They could be put in smaller groups by shape.) Are there any other ways of grouping the objects? By texture?

More to do

More science: Discuss the similarities and differences of the shapes. ▪ Ask the children to sort the shapes by sight and then by touch only.

Related books

Color by Ruth Heller
Sorting by Henry Pluckrose
Sorting and Sets by Sally Hewitt
Texture by Karen Bryant-Mole

Elizabeth Thomas, Hobart, IN

Colors

Color Frames

4+

Science skills
Children use observation and fine motor skills.

Materials

Blue, red and yellow cellophane
Scissors
Hole punch
Construction paper in blue, red and yellow
Glue
Yarn or string

What to do

1. Before class, cut one red, blue and yellow 4" (10 cm) construction paper square per child. Fold each in half and cut out the center, leaving a 1" (2.5 cm) frame. Next cut out one 3½" (8.5 cm) square of red, blue and yellow cellophane per child.
2. Give each child one set of colored cellophane and one set of construction paper squares. Ask the children to match the cellophane color to its corresponding construction paper frame.
3. Glue the cellophane to its frame. Instruct children to put glue only on the construction paper.
4. Punch a hole in the center of the top of each frame. String all three frames loosely together.
5. Let children experiment by holding the colors up to their eyes and looking at objects in the room. Encourage them to combine colors and look through two or three at a time.
6. Give children a flashlight and let them shine it through the cellophane colors. Use a white surface such as a wall, floor or piece of construction paper to reflect colors onto. Encourage children to combine colors. Ask them what colors they see if they shine light through both the yellow and blue frames.
7. At circle time talk about how red, yellow and blue are primary colors from which all other colors can be made. Ask children to describe the different colors they made by combining the primary colors.

Related book

Is It Red? Is it Yellow? Is It Blue? by Tana Hoban

Connie Heagerty, Trumbull, CT

Color Magnifying Glasses

4+

Science skills
Children use fine motor skills, then explore colors around the classroom.

Materials

Is It Red? Is It Yellow? Is It Blue? by Tana Hoban
Magnifying glass pattern
Tagboard or heavy weight paper
Glue sticks
Yellow, blue and red cellophane

What to do

1. Read *Is It Red? Is It Yellow? Is It Blue?* Discuss the signs and the different colors.
2. Ahead of time, prepare six magnifying glass patterns for each child. Help the children create their own red, blue and yellow magnifying glasses at their desks.
3. For each magnifying glass, use two magnifying glass patterns. Place one magnifying glass down and glue along the round part of the magnifying glass and handle.
4. Place a piece of cellophane down on the magnifying glass. Then glue around the second magnifying glass, and place on top of the first magnifying glass and cellophane.
5. The children cut the excess cellophane from around the magnifying glass.
6. Repeat this process, making magnifying glasses with each of the other two colors.
7. Using these magnifying glasses, the children view the things in the classroom as blue, red and yellow.
8. Point out to the children that they can create other colors by placing the magnifying glasses on top of one another.

More to do

Math: Create a class graph titled "Our Favorite Colors."

Susan Mahoney, Patuxent River, MD

4+

Mix It Up

Science skills

Children make predictions and observe color mixing changes.

Materials

2 half-gallon (2 L) containers of colored water, one blue and one red
1 package small, clear plastic dosage-type cups (available at medical supply shops or party supply stores)
4 small serving trays
4 medicine or eyedroppers
8 small (8 oz. or 250 ml) clear plastic drinking cups
Sponge

What to do

1. In advance, mix up two batches of colored water (3-5 drops of food coloring per half gallon are sufficient).
2. Set out the four trays. Each tray should contain 2 8-oz. cups, 4 to 5 smaller cups and 1 medicine or eyedropper.
3. Fill the 8 oz. cups halfway with one of the two water solutions.
4. Allow the children to mix the waters to form a new color.
5. Dispose of the water after each child finishes so that the next child has fresh water.

More to do

Art: Mix colors by melting crayons.

Related books

Color Dance by Ann Jonas
The Color Kittens by Golden Books Staff
Little Blue and Little Yellow by Leo Lionni
Mouse Paint by Ellen Stoll Walsh

Linda Ford, Sacramento, CA

Mix It Up Again

4+

Science skills

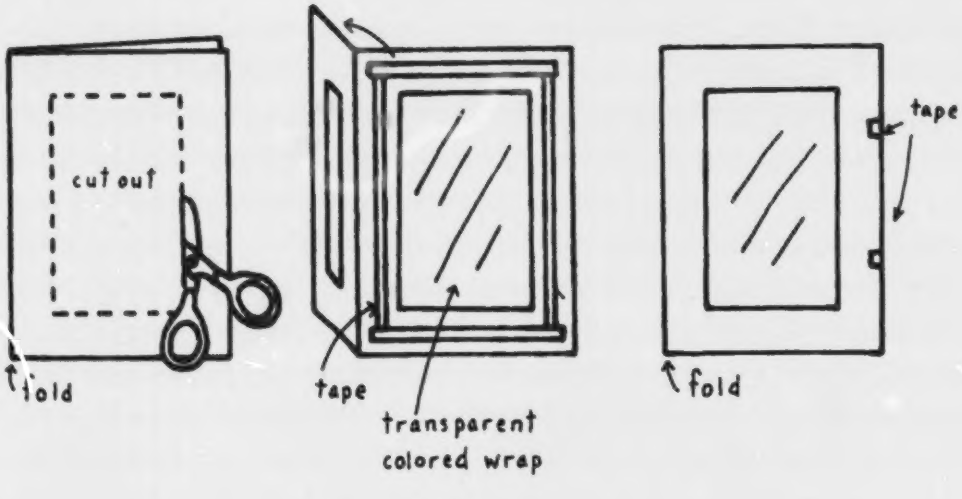
By conducting their own experiments, children create, observe and make predictions about the colored light flowing into their classroom.

Materials

Transparent colored florist or craft wrap (red, yellow, blue)
Tape
A sunny window
3 to 6 pieces of shirt cardboard

What to do

1. Tape a 1′ (30 cm) square section of colored transparent wrap to a sunny window.
2. Use the shirt cardboard to make color paddles by first folding the cardboard in half, then cutting out a "window." Then unfold. Tape transparent wrap over this cutout hole. Refold and tape the cardboard shut. Make at least one color paddle for each color.



3. When the sun hits your window it should cast a patch of colored sunlight through the transparent wrap into the classroom.
4. Encourage the children to hold the color paddles up to the window to mix and change the colors.

Original poem

A little red and then some blue,
What do you think they're going to do?
Mix some yellow and some blue,
Color mixing is fun to do!

Related books

Color Dance by Ann Jonas
The Color Kittens by Golden Books Staff
Do You Know Colors? by Katherine Howard
Little Blue and Little Yellow by Leo Lionni
Mouse Paint by Ellen Stoll Walsh

Linda Ford, Sacramento, CA

4+

Somewhere Over Newton's Rainbow

Science skills
Children observe what a great scientist first discovered long ago.

Materials

Picture of Sir Isaac Newton, optional
Men's old white dress shirts or lab coats for dress-up
One plastic prism

What to do

1. If possible, show a picture of Sir Isaac Newton and explain that he was a great scientist. Talk about what a scientist is (an expert in science, someone who observes, studies and does experiments to find out more about things in the world). If possible, have the children dress up in lab coats like real scientists. Tell the children you are going to do the following experiment, first done by Newton.
2. Locate a window in your school or classroom where direct sunlight is pouring in. Cover the window or pull down a shade so only a small beam of light comes through. Hold the prism point down in the beam so that the children can see a rainbow. Explain that when white light from the sun passes through the prism and is broken up into different colors, a rainbow appears. Allow each child time to explore using the prism.

More to do

Games: Sing "The Rainbow in the Dell" to the tune of "The Farmer in the Dell." Make red, orange, yellow, green, blue and violet construction paper circles and a drawing of a rainbow. Attach yarn to the rainbow and the circles individually to make them into necklaces. Select a child to wear the rainbow. Distribute the other color necklaces. Ask the child wearing the rainbow to select the first color. For example, "The rainbow takes the red, the rainbow takes the red. Hi-ho the derry-o, the rainbow takes the red." Continue until all the colors have been selected, then let each color go away until "the rainbow stands alone." Repeat the game until each child has had a turn.

Math: Make a bar graph illustrating each child's favorite color of the rainbow. The children can use Unifix or wooden cubes to duplicate the graph.

Related books

Harold and the Purple Crayon by Crockett Johnson
Mary Wore Her Red Dress, and Henry Wore His Green Sneakers by Merle Peek
Planting a Rainbow by Lois Ehlert
Who Said Red? by Mary Serfozo

Ann M. Ferruggia, Voorhees, NJ

Secondary Color Wheel

4+

Science skills
Children observe how new colors appear.

Materials

Large circle cut from poster board, divided into 6 wedges
3 glass jars (baby food jars work well)
Red, yellow and blue acrylic paint
Small circles cut from manila paper, divided into 6 wedges, one per child
Crayons or markers

What to do

1. Tack the large color wheel to the bulletin board.
2. The teacher, using primary colors, paints three of the segments red, blue and yellow.
3. Using the glass jars, the teacher demonstrates mixing the primary colors to create three new colors: green, orange and purple.
4. After a class discussion, the "new" colors may be added to the appropriate places on the color wheel.
5. Give the children small color wheels which they may try coloring with crayons or markers to match those on the large color wheel.

Elaine Commins, Atlanta, GA

4+ The Amazing Color-Blending Bottles

Science skills
Children observe the mixing of secondary colors.

Materials

- 3 clear glass one-gallon (1 L) apple juice bottles
- Red, yellow and blue food coloring in droppers or squeeze bottles
- Water
- Long, slender stir stick

What to do

1. Before class, soak the labels off and thoroughly wash the glass bottles. Fill each almost to the top with water.
2. Discuss with the children the blending and mixing of primary colors to create secondary colors. Then ask all the children to gather around the bottles of water.
3. Slowly put 6 drops of yellow food color into the water and watch as it streaks. Use the long stick to swirl it a bit and see how the color becomes unified. Wait for the water to become still.
4. Slowly add 3 drops of red food coloring and watch as streaks of orange appear. Eventually, swirl the water again to see the unified orange color appear.
5. Continue this method with the other two bottles to make green and purple. For the second bottle, use 6 drops of yellow with 2 or 3 drops of blue to make green. For the third bottle, use 3 or 4 drops of red and 2 or 3 of blue to make purple.

More to do

More science: Ask for suggestions of other colors to add after the secondary colors are made (brown and black are easy to achieve). • For a learning center, have available baby food jars; pitchers of water; a bucket for dumping used water; bottles of red, yellow, blue and white liquid tempera paint; and small stir sticks. Children experiment with mixing colors in jars half filled with water to create secondary colors as well as shades of colors using the white. • Shine a flashlight through the bottles during the different steps of the process.

Music: Play soft, relaxing music in the background. Children may lie on the floor in a semicircle facing the bottles. Ask the children what they observe about quiet time with the addition of a color to focus on.

Related books and recording

Color by Ruth Heller
Do You Know Colors? by Katherine Howard
"Colors" by Hap Palmer

Linda J. Becker, Rochester, MN

Colors

Tissue Color Mix

5+

Science skills
Children observe changes in mixed colors and use fine motor skills to create a picture.

Materials

- Colored art tissue paper
- Liquid starch
- White paper
- Scissors
- Paintbrush
- Water for rinsing

What to do

1. Cut art tissue into a variety of shapes.
2. Dip a paintbrush into liquid starch and use it like glue to paint and stick tissue shapes to white paper.
3. Overlap shapes to create new colors. Rinse the brush in clear water between painting over the tissue paper colors. This will keep the colors bright.

More to do

Art: Use starch to brush tissue pieces onto clear plastic wrap. Then dry and tape the picture to a sunny window. ▪ Use liquid starch to glue tissue pieces to wax paper. ▪ To color Easter eggs, brush over the tissue shapes on the eggs with liquid starch. Allow to dry; remove the tissue paper and see the colored egg!

More science: Layer the following colored tissues to make new colors: magenta over yellow to create red; bright blue over yellow to create green; magenta over bright blue to create purple; combinations of all three to create black.

■ *Nancy Gardner, Weymouth, MA*

Vegetable Dyes

5+

Science skills
Children observe absorption using colored liquids.

Materials

- 1 carrot
- 1 red cabbage
- 3 sandwich-size resealable plastic bags
- Strips of various fabrics: cotton, wool felt, synthetics
- 1 beet
- Grater
- 3 clear cups
- Warm water

What to do

1. Grate about ⅛ cup each of the carrot, beet and cabbage. Keep them separate.
2. Put each into a resealable plastic bag and add ¼ cup (40 ml) of warm water.
3. Press and squish for 2 to 3 minutes, until the water is colored.
4. Empty each colored liquid into separate clear cups.
5. Use cotton strips, wool felt strips and synthetic strips of material. Dip each type of cloth into all 3 dyes. Measure which type of cloth absorbed the most and the least.

More to do

Art: You can use these vegetable liquids as watercolor paints and discuss with the children which vegetable made dark colored paint, light colored paint, etc.

Snack: The children can also use the liquid to color hardboiled eggs by adding ¼ cup (60 ml) vinegar to each colored liquid. Enjoy the colored eggs for snack.

■ *Laura Claire-Gremett, San Jose, CA*

Cooking

Shaker Pudding

3+

Science skills
In this fun and delicious project, children practice observation and small and large motor skills.

Materials

Baby food jars, one for each child
Milk
Pudding mix
Spoons, popsicle sticks or tongue depressors

What to do

1. Each child needs a small, screw-top jar.
2. Put about 3 tablespoons (45 ml) of dry pudding in each jar and add the same amount of milk.
3. Screw on the lid to the jar.
4. Let the children shake, shake, shake! Play your favorite dancing music. This can be a great movement activity for a rainy day! Play Greg and Steve's song, "Popcorn," substituting pudding for the title, and shake it up!
5. Take off the lid and—ta dah! Pudding! Depending on the size of the mouth of the jar, a popsicle stick or a tongue depressor may be a good alternative to a spoon.

More to do

More cooking: Use vanilla pudding and a few drops of food color to tie this activity in to a color or holiday theme. Put the pudding in a paper cup, add a popsicle stick and put it in the freezer, and you have a frozen treat.

Tracie O'Hara, Charlotte, NC

Let's Make Bread!

3+

Science skills
In this very tactile project, children use all their senses to make observations, and they use fine motor skills.

Materials

Large clean plastic bucket
3 packets yeast
Measuring cups and spoons
5 lbs. (2.5 kg) whole wheat flour
Warm water
1 cup (250 ml) honey
Salt
Large mixing spoons

Marker
Newsprint paper (not newspaper!)
Butter at room temperature
Oven
Metal coffee tins: three 3-lb. (1½ kg) tins, four 2-lb. tins (1 kg) and six 1½-lb. tins (750 gm), or a mixture
2-3 cups (500-750 ml) of wheat germ, sunflower seeds or nuts
Recipe written on large paper with pictures so the children can "read" it as they make the bread (also called a rebus)

What to do

1. Ask the children to measure into a large plastic bucket: 2 quarts (2 L) warm water, 3 packets yeast, 1 cup honey, then mix. Explain that this is the "magical mixture" that will make their bread grow. Let them smell the mixture.
2. Measure and mix in 3 tablespoons (45 ml) of salt and the sunflower seeds, nuts, wheat germ or whatever you decide to add to your bread.
3. Add enough whole wheat flour to make this a stiff dough. The children will be able to do all but the mixing at the end when the dough becomes too stiff. Mark the level of the dough on the outside of the bucket with a marker, cover it with a lid or some newsprint and put the bucket in a sink of hot water. The dough will rise in 30 minutes to one hour.
4. Check to see how the magic yeast has made the dough grow.
5. Ask the children to wash, then flour, their hands. Put the dough out on floured newsprint in handfuls for the children to knead. Keep their hands floured and demonstrate for them how to knead.
6. Butter the coffee tins and divide the dough among them.
7. Cover the tins and put them in hot water in the sink for 15 to 20 minutes. The dough should rise to the top but not over the edges.
8. Bake at 375°F (190°C) for about one hour.
9. Enjoy the warm bread for an afternoon snack.

More to do

More cooking: If available, arrange some dried wheat stalks from a field in a decorative container in the classroom. • Get grains of wheat from a health food store and grind some in a blender to show where the flour comes from.

Original song

Sing this song to the tune of "This Is the Way We Wash Our Clothes."

This is the way we mix our bread, mix our bread, mix our bread (stir with spoon). This is the way we mix our bread so early (Monday) morning.
This is the way our bread rises up (squat down and grow the way the bread does)...
This is the way we knead our bread (make exaggerated kneading motions)...
This is the way our bread rises up...
Our bread goes in the oven to bake.
This is the way we eat our bread....

Shirley Story, Lenoir, NC

Cooking Yummy Chocolate Tofu Pudding

3+

Science skills

Cooking and tasting are fun ways to learn about a new food.

Materials

Dry soybeans
½ cup (125 ml) honey
4 tablespoons (60 ml) unsweetened cocoa powder
One 19-ounce (580 ml) package of firm silken tofu, chilled and cubed
Blender
1 teaspoon (5 ml) vanilla extract
Cups

What to do

1. Bring dry soybeans to show children. Save them to use for a craft project.
2. Show the children the tofu and explain that it is made from soybeans.
3. Chop the tofu and add to the blender.
4. Add remaining ingredients and blend.
5. Perhaps you could also mix up a batch of regular instant pudding, using milk, for taste comparisons. Explain to the children that some people do not eat any meat or animal products and that soybeans are an extremely healthful alternative source of protein.
6. Fill the cups with the tasty treat and chill, or eat right away.

Linda Atamian, Charlestown, RI

Individual Egg Salads

3+

Science skills

Children have fun using fine motor skills and observing as they make their own egg salad.

Materials

1 hardboiled egg per child
Mustard, mayonnaise, salt and pepper
Napkins
1 resealable plastic bag per child
Scissors
Crackers or bread

What to do

1. Give each child a hard-boiled egg and demonstrate how to peel it.
2. After the children have peeled their eggs, check for shells and give each child a plastic bag to put the egg into.

3. Let children hold the bag open as you put in a little mustard, mayonnaise, salt and pepper or other ingredients of your choice.
4. Zip the bags up and check for too much air or for leakage.
5. Encourage the children to squish the bag with their hands until it becomes egg salad.
6. Push everything down to one corner, cut the corner with scissors and squeeze the salad onto bread or crackers.

More to do

Language: Read and discuss *Chickens Aren't the Only Ones* by Ruth Heller.

Math: You and the children could discuss one-to-one correspondence as you hand out one egg per person and one plastic bag per person, etc.

More science: This activity may follow a discussion about animals that lay eggs and others that are born alive. It may also be used with a unit on farms and farm animals.

Leslie B. Brunner, Hot Springs, VA

3+

Pizza Dough Play

Science skills

Children use all their senses to make observations and have an opportunity to practice fine motor skills as well as creativity.

Materials

Flour
Large bowls
Smooth, clean surface or mess trays
Plastic pizza cutters, cookie cutters, small rolling pins
½ cup (125 ml) measure
Water
Pizza pan
Colored playdough

What to do

1. Let each child measure ½ cup of flour and place it in a bowl.
2. Add enough water to make a dough with a consistency that is thick enough to be handled.
3. After washing their hands the children put flour on their hands and knead the dough on a surface or in a mess tray.
4. Discuss the textures of the dough as it is mixed. Remind children that this is a playdough pizza you are making; it is not to be eaten.
5. After it has been thoroughly combined, transfer the dough to the pizza pan, adding flour to the surface if the dough is too sticky.
6. Allow the children to manipulate the dough with their hands, rolling pins, pizza cutters, etc.
7. Re-apply flour to hands if dough continues to stick to hands; add flour to utensils if necessary.
8. Add colored playdough to dough to simulate pizza toppings. Discard all dough after play has ended.
9. On another day, make real pizzas for lunch by using a pizza crust mix purchased in many retail grocery stores. Just add desired toppings.

More to do

Dramatic play: Turn that area into a pizza parlor with pizzeria props, pretend food, pizza pans, empty parmesan and grated pepper containers, etc. Make half of your pizzeria into a restaurant complete with a salad bar. Pre-paint shredded paper green to create lettuce. Add to a large bowl or water table and add pre-cut peppers, etc., for salad toppings. Add tongs for each salad item.

Field trip: Schedule a tour of a local pizzeria and talk to a pizza parlor or pizza delivery person. Ask for pizza props such as boxes, hats, sacks, insulated carriers, coupons, flyers, plates aprons, etc., to add to the dramatic play area.

Food: Order pizza for lunch. Choose the size and type and allow the children to collect the pizzas upon delivery.

Manipulatives: Make a pizza puzzle. Using a round piece of cardboard the size of a pizza pan, decorate the cardboard to look like a pizza. Cut it into slices. Allow the children to fit the pizza into the pizza pan to complete the puzzle. This can be done on a flannel board also.

Original song

On Top of a Pizza (sing to the tune of "On top of Old Smokey")

On top of a pizza,
All covered with cheese, (rub tummy)
I lost my pepperoni, (pretend to cry)
When somebody sneezed. (Achoo!)

It rolled off the table,
And onto the floor (point to the floor)
And then my pepperoni,
Rolled straight out the door! (Slam!)

■ *Tina R. Woehler, Flower Mound, TX*

Pizza Topping Taste Test

3+

Science skills

In this taste test, children make observations and predictions and have an opportunity for language and vocabulary development.

Materials

Pepperoni slices
Cooked ground beef
Ham slices
Pineapple
Olives
Paper plates
Poster board

Grated pizza cheeses
 (cheddar, parmesan, provolone, mozzarella)
Canned mushrooms, drained
Green peppers, chopped
Anchovies
Napkins
Marker

What to do

1. Prepare pizza toppings beforehand or with the children.
2. Make a chart on poster board with every child's name on the left side. Make a space along the top of the poster board for each topping. Use a happy face for *liked* and a frown for *disliked* for each topping the children taste.
3. Distribute some of each of the toppings to each child.
4. Talk about the appearance, taste, smell and textures of the toppings as tasting occurs.
5. Record the responses on the poster board for each child and each topping. Which toppings were most popular? Least popular?

More to do

Snack: Prepare mini-pizzas for snack using ½ of an English muffin, pizza sauce, desired toppings and cheeses and bake in oven at 325°F (160°C) until cheese melts. • Prepare fruit pizzas. Spread cookie dough from a tube onto an ungreased pizza pan, cook according to directions, then cool 15 minutes. Put whipped topping on the cookie on the pizza pan. Then add desired canned, chopped or freshly sliced fruits and slice. One roll of cookie dough is enough for 16 children.

Tina R. Woehler, Flower Mound, TX

3+

Flavored Shaved Ice

Science skills

Another delicious experiment allows children to practice observation.

Materials

Ice shaver machine and accessories
Powdered drink mix, unprepared, presweetened
Cups
Water
Bowls
Spoons, one per child

What to do

1. Freeze the water in ice shaver containers according to the instructions on the box.
2. Turn the container upside down onto the palm of your hand and pour warm water over the container to loosen the ice from the container.
3. Place ice in the ice shaver machine.
4. Shave the ice into an empty container until there is enough ice for each child to have about ½ cup (125 ml).
5. Add a spoonful of drink mix to the shaved ice and mix.
6. Eat it up!

More to do

Sand and water table: Put shaved ice in trays or water table using scoops, spoons, shovel, trucks, etc.

Related book
The Ice Cream Store by Dennis Lee

Tina R. Woehler, Flower Mound, TX

What Can We Do With Playdough?

3+

Science skills
Children make their own playdough, then embark on a variety of scientific experiences using observation, measuring and fine motor skills.

Materials

Playdough Recipe
½ cup (125 ml) salt
1 cup (250 ml) water
Food coloring
⅓ teaspoon (1-2 ml) flavoring: mint for green color, orange for orange color, almond for yellow color, cinnamon oil for red color, vanilla for no color at all, optional
1 cup (250 ml) flour
2 teaspoons (10 ml) cream of tartar
1 tablespoon (15 ml) oil
Double boiler pan
Wooden spoon
Butter knife
Wax paper
Closed plastic container with lid

What to do

This recipe is always soft and pliable. It makes a small amount of playdough for home use or triple the recipe for the classroom (that makes a 5" or 12.5 cm ball). If you make this recipe with the children, take proper precautions when you cook the dough. If a child tastes the playdough, it will taste salty but it will not harm him.

1. Let the children put the ingredients in the pan. For example, divide the 3 cups of flour for a triple recipe into ¼ cup (60 ml) amounts so each child can add one ingredient.
2. Mix the dry ingredients. Add oil, water and food coloring.
3. Put this mixture in the double boiler pan over hot water.
4. Cook and stir constantly for 3 minutes, until the mixture comes away from the sides of the pan.
5. Scrape the dough out of the pan with the butter knife.
6. After the playdough is cooked and partially cooled, let each child have a turn kneading it.
7. Put the ball of playdough on wax paper. Knead while warm, and then store it in an airtight container.

More to do

Art: Use playdough in craft projects to create a base to hold pipe cleaner flower stems. • Make copies of the playdough recipe to send home and let each child take a small ball of playdough home as a gift. • You can combine this recipe with other favorite classroom recipes as a gift for Mom and Dad. Each child can design her own recipe book cover.
Dramatic Play: Put playdough in the kitchen area to be used by four to six children during free play.

Fine motor: Give each child in the group a small amount of playdough and show them how to roll it into a long snake shape. Encourage children to make the shape of letters or numbers. • Encourage the children to make three-dimensional fruit and vegetable shapes, such as a banana, apple, bunch of grapes, watermelon slice, carrots, potato, peas, string beans or an onion. Use the pretend food in the dramatic play center.

Math: Teach liquid measurement and dry measurement of ingredients. How many ¼ cups equals 1 cup? How many ⅓ cups equal 1 cup. • Ask the children to make playdough balls of various sizes, then sort in them a row showing the gradual gradation of size, largest to smallest. Mix them up, then try doing smallest to largest. • Put different size playdough balls on a balance scale. When does the scale balance? When does it tip to one side? Why? • Take a walk and pick up leaves of various sizes and shapes. Back in the classroom, trace around the leaf and cut out a playdough cookie leaf.

More science: Give the children a box containing a comb, a screw, a large washer, a carved wooden or plastic building block, a large paper clip, puzzle piece, a piece each of plastic and canvas, a potato scrubber and any other safe object that has texture. You can also add several dull, sturdy plastic dinner knives for cutting the playdough and several plastic trays. Let the children experiment with the objects, using them to make shapes in the soft playdough. You can also add small wooden rolling pins and a spatula. • Leave a small amount of playdough out for a day. What causes the crust to form? Leave it out for a week and discuss how it feels now. Could it be made into a new shape now? • Compare the playdough recipe with another similar recipe such as cookie dough, bread dough or Christmas ornament dough. Which ingredients are the same and which are different?

Original poem

I Like to Play With Playdough

I like to play with playdough
And roll it in a ball.
Then poke it, push it, and pat it
And make anything at all.

Sometimes I make some cookies
And put them on a tray.
Other times I design a snowman
That does not melt away.

Now I'll make some numbers,
My favorite one is three.
Please come to the table
And make something with me.

Related book

From Kids With Love by Janis Hill and Laurie Patrick

Mary Brehm, Aurora, OH

A Baker's Balloon

3+

Science skills
Children are encouraged to make observations and use visual and fine motor skills.

Materials

Yeast
Sugar
Tall narrow bottle
Any other ingredients for a yeast bread or roll recipe
Magnifying glass
Warm water
Balloon
The Little Red Hen, any version

What to do

1. Read *The Little Red Hen*.
2. Tell the children that you are going to examine and experiment with the yeast a little bit before you bake. Look at the yeast under a magnifying glass. Smell and touch it.
3. Mix some yeast with sugar and warm water in the bottom of the bottle.
4. Secure the neck of the balloon over the bottleneck. Leave in a warm place.
5. Observe the bubbles in the bottle and watch the balloon begin to inflate.
6. Continue with your yeast bread-baking activity.

More to do

Art: Make masks of the characters from *The Little Red Hen*.
Storytelling: Act out the story. • Invent a new story about what will happen the next time hen asks for help.

Original song

Sing and act out this song to the tune of "Here We Go Round the Mulberry Bush."

> *This is the way she plants the wheat, plants the wheat, plants the wheat.*
> *This is the way she plants the wheat, the busy little red hen.*
>
> *Add other verses, following the story line: cut the wheat, grind the wheat, carry the flour, mix the dough, knead the dough, bake the bread, eat the bread.*

Related books

Bread, Bread, Bread by Ann Morris
Tony's Bread by Tomie DePaola

■ *Sandra Gratias, Perkasie, PA*

3+

Pumpkin Bread

Science skills

Children use observation, measuring, communication and fine motor skills.

Materials

5 cups (1¼ kg) of sugar
1 cup (250 ml) applesauce
8 eggs
4 teaspoons (20 ml) baking soda
2 teaspoons (10 ml) cinnamon
½ teaspoon (2.5 ml) cloves
2 large bowls
Measuring cups and spoons
Wooden toothpick for testing doneness
1 cup (250 ml) margarine or butter, softened
1 cup (250 ml) vegetable oil
32 ounce can of pumpkin
2 teaspoons (10 ml) salt
1 teaspoon (5 ml) baking powder
7 cups (1¾ kg) of flour
Empty soup cans or small aluminum loaf pans
Large spoon
Oven

What to do

This recipe makes a loaf for each child to take home for Thanksgiving dinner.

1. With the children helping and taking turns, combine the sugar, softened margarine or butter, applesauce and oil. Mix until smooth.
2. Add the eggs one at a time, mixing well after each egg.
3. Blend in the pumpkin.
4. Combine all dry ingredients in a separate bowl, mix well and add the wet ingredients to the dry ingredients.
5. Pour the batter into greased soup cans or loaf pans.
6. Bake at 350°F (180°C) for about 1 hour and 10 minutes or until a wooden toothpick comes out clean.

More to do

Field trip: Go on a field trip to a pumpkin patch to pick your own pumpkins.

Lisa Shattuck, Johnson City, NY

3+

Veggie Art

Science skills

As they create a delicious treat, children practice observation and classification skills.

Materials

One package of cream cheese at room temperature, or peanut butter
Paper saucers
Plastic knives, forks and spoons
Assortment of washed fresh vegetables that are colorful and interesting, for example, radishes, celery and carrot sticks, parsley, green beans, eggplant slices, sliced turnip, broccoli, spinach, cauliflower

What to do

1. Ask the children to spread the cream cheese or peanut butter generously over the saucer.
2. Arrange vegetables in interesting designs on the saucers.
3. Encourage the children to describe their designs with the class, naming vegetable colors, shapes, etc.
4. Eat the design for snack!

   Variation: Use fresh fruit rather than veggies, for example, cherries, grapes, pear halves, peach halves, orange rind rings, orange wedges, kiwi, etc.

More to do

More science: Use the veggie designs to begin a discussion on plants, or on our sense of taste, or on nutrition.

Dolores Campbell, Chickasha, OK

Easy Old-Fashioned Ice Cream

3+

Science skills

During this delicious experiment, children observe, measure and practice sequencing and fine motor skills.

Materials

2½ cups (625 ml) brown sugar
3 bananas, mashed, optional
1 pint (500 ml) whipping cream
2 teaspoons (10 ml) vanilla
Ice cream maker (4 quart or 4 L size for this recipe), electric or hand crank (recommend hand crank for older children)
Crushed ice (available from fast food outlet or meat packing plant usually at no charge)
3 eggs
1 teaspoon (5 ml) salt
1 quart (1 L) milk
1 teaspoon (5 ml) almond flavoring
Pickling salt
Blender or hand beaters
Bowls, spatula, potato masher, measuring cups and spoons

What to do

1. As an introduction to this activity, you may wish to visit a dairy farm or plan a special trip to the grocery store. Or you could ask each child bring in an ingredient from home.
2. Mix the eggs and sugar. Involve the children in the measuring, stirring and cranking.

3. Let the children mash the bananas using the potato masher. Mix bananas and sugar mixture with the blender or use hand beaters.
4. Add cream, vanilla, salt and almond flavoring. Mix well.
5. Place the mixture in the ice cream canister and add enough milk to bring the liquid up to the fill line. Be careful not to fill above fill line.
6. Turn the dasher to make sure the mixture is well mixed. Note the consistency with the children. What does it look like?
7. Place the ice cream canister in the ice cream freezer. Add ice and salt, following the directions for your machine.
8. This ice cream takes about 45 minutes. Let your ice cream ripen in the ice cream freezer or in the deep freeze.
9. Serve ice cream at lunch time or as a snack. Discuss the changes that have happened with the children. Note that the ingredients have changed from liquid to solid, cool to cold, etc. Note: You can make strawberry ice cream by omitting bananas and adding 1 cup (250 ml) strawberry jam. Reduce sugar to 2 cups (500 ml). This ice cream is softer and creamier than store-bought ice cream.

More to do

Dramatic play: Set up an ice cream store and list everyone's favorite ice cream flavors on a big poster. Use paper cones and let children wear aprons. Make up a menu and ask the children how much things cost. Using play money enhances this activity.

Language: Make a list of all the interesting words to describe ice cream. You'll be surprised at what the children come up with.

Math: Graph everyone's favorite ice cream flavor on paper or on a chalkboard.

Sand and water table: Add any remaining ice to the water table. Do not use the ice to which salt has been added.

Related books

Two Cool Cows by Toby Speed
The Very Hungry Caterpillar by Eric Carle
When Winter Comes by Robert Maass

Mark Crouse, Port Williams, Nova Scotia, Canada

4+

Fun With Pudding

Science skills
Children measure and use fine motor skills.

Materials

Instant pudding mix, vanilla and chocolate
Cups
Napkins
Milk
Spoons
Wooden spoon

Cooking

Electric mixer
Measuring cups
Bowls
Aprons

What to do

1. Gather all materials and set them up on a table. Review cooking rules, such as clean hands, aprons, taking turns, etc.
2. Discuss the steps in making pudding. To which food group does it belong?
3. Divide the class into groups and give each child a job. For example, two groups may prefer vanilla and two groups may want chocolate. Each child can have a job, such as pouring milk, measuring milk, opening the mix or placing ingredients in the bowl, and each child may use the electric mixer (supervised by the teacher). All of these activities should be guided by the teacher for best results.
5. Spoon the pudding into cups and serve with spoons and napkins.
6. Discuss what happened to the mix and the milk.

More to do

Language: Together make up a class story or poem about pudding, or about your pudding-making experiment.

Sand and water table: Using the measuring cup, practice measuring and pouring water or sand.

Related books

Pancakes for Breakfast by Tomie De Paola
Popcorn Book by Tomie De Paola

Karen Megay-Nespoli, Massapequa Park, NY

Green Eggs?

4+

Science skills
Children observe, make predictions about changes and are encouraged to appreciate differences.

Materials

Green Eggs and Ham by Dr. Seuss
Butter
Green food coloring
Large clear glass bowl
Spatula or wooden spoon
Small paper plates or napkins and spoons or forks for each child
Chart tablet and marker
6 eggs
Electric frying pan
Fork or wire whisk
Paper towels
Platter

What to do

1. Read *Green Eggs and Ham.*

2. Ask the children to predict whether green eggs will taste any different from plain scrambled eggs. Write their predictions on chart paper.
3. Preheat the frying pan as you prepare the eggs for scrambling. Crack three of the eggs into the clear glass bowl and beat the eggs. Pour these eggs into the frying pan. Allow the children to watch the changes taking place as the eggs cook. When the eggs are done, place them on one side of the platter to cool.
4. Crack the remaining three eggs into the clear glass bowl. Add green food coloring and mix. Point out the changes in the eggs and the causes for these changes. Scramble the green eggs.
5. When you have cooked both the green and yellow eggs, allow the children to predict again whether or not there will be a difference in taste.
6. Give each child a small portion of each color egg and ask them to taste the eggs one at a time to determine if there is a difference in taste.
7. Check the class predictions.
8. Enjoy the rest of the eggs!

More to do

More science: Try other colors in scrambled eggs. • Try coloring other foods, such as rice or mashed potatoes.

■ *Lyndall Warren, Milledgeville, GA*

5+

The Way the Cookie Crumbles

Science skills
Children practice observation, measuring, predicting and fine motor skills.

Materials

Simple recipe for basic sugar cookies
Ingredients, enough for six bite-size cookies per child, and materials as outlined in the recipe
Aprons (optional)
Cookie cutters, one shape only
Three index cards, labeled, respectively, Sugar Cookies, No Sugar, No Leavening
Three plates
Large graph or chart paper with marker, set up to record information comparing the taste, color and smell of the cookies

What to do

1. In preparation for this baking experiment, ask the children to put on their aprons and carefully wash their hands.
2. Assist the children as they follow the recipe, baking three batches of cookies: one regular (control) batch, one batch that is identical to the first except that the sugar is omitted and one batch that is identical to the first except that the leavening (baking powder and/or soda)

is omitted. Keep the batches separated (by time or location) in the oven and on their cooling racks before moving them to the plates labeled with the index cards.

3. Give each child a "control" sugar cookie and ask the class to describe its taste, color, texture and smell. Record the responses in the appropriate areas of the chart. Repeat this step using the "no sugar" and "no leavening" cookies.
4. Ask the children to guess which of the three cookies would be the most popular with other children and to explain why.
5. Conduct a blind taste test, using volunteers from another class. Graph the results to determine whether your class's guess was correct. Discuss the outcome. Remember to point out that recipes are generally the result of experimentation!

More to do

Language: Encourage the children to brainstorm words to describe the taste, texture and smell of the cookies.

Related book

The Doorbell Rang by Pat Hutchins

Marji E. Gold-Vukson, West Lafayette, IN

Cooking Up Science in the Kitchen

5+

Science skills

In a delicious experiment, the children observe, discuss and use fine motor skills.

Materials

Instant pudding mix
Mixing bowl
Hand eggbeater
Milk
Measuring cup

What to do

1. Explain to your class how heat, cold and friction change the way food looks, tastes and feels. Ask the children to think of examples.
2. In two or more groups, the children stand around the table(s). Explain that they are going to help make pudding and that they will be observing many changes. Let them tell you what they do see before you get started (powdered mix, liquid milk).
3. Have the children guess what will happen when the two ingredients are mixed together, when the two ingredients are beaten together and when the finished mixture is chilled.
4. Follow the package directions on the pudding mix. Encourage the children to take turns mixing the pudding with the hand eggbeater.
5. Explain that the movement of the beater blades is causing the two ingredients to blend together, an example of friction.

6. Discuss the changes in the mixture and then chill the mixture. Observe, describe, eat and enjoy!

More to do

More science: Apples, pineapples and pears are easy to dry. Show your class prunes/plums, raisins/grapes, dried apricots and fresh ones. Discuss what has taken place with the dried fruit. Place the dry fruit in water over night. Observe and discuss what has taken place. • Use heavy cream to make butter. Put the cream into clear plastic or glass containers with secure lids and ask the children to shake vigorously. Remove the lid to observe the various stages as the cream turns into butter.

Lois McEwan, Levittown, NY

5+

Cooking Up More Science in the Kitchen

Science skills

Children use all their senses to observe, and they make predictions and inferences.

Materials

One dozen eggs, or enough to feed your class
Whisk
Electric frying pan
Bowl
Butter
Chart paper and marker

What to do

1. Set up an electric frying pan in a safe area out of the children's reach but where they can observe. Supervise closely.
2. Ask the children to take turns cracking open the eggs and whisking them into the bowl. Observe and discuss appearance.
3. Coat the pan lightly with butter. Explain how the heat has turned the solid fat into a liquid.
4. Encourage the children to hypothesize what will happen to the eggs when they hit the hot pan. Write down their theories.
5. Cook the eggs. Observe the changes taking place. Compare the actual results with the children's hypotheses.

More to do

More science: Using extreme caution and supervising the activity closely, heat plain water in the electric frying pan. Place a thermometer in the water. At what temperature will it boil? What happens to the water if you let it boil for a long time? Discuss steam and evaporation. • Use the boiling water to make instant gelatin, such as Jell-O. Let the children observe how the hot water dissolves the Jell-O. Chill the mixture overnight. Observe and discuss the changes that have taken place. • Make ice cubes.

Lois McEwan, Levittown, NY

Make a Recipe

5+

Science skills

Children learn about observation, prediction and cause and effect. They also develop fine motor skills.

Materials

Large mixing bowl
Readily available regular baking ingredients
Paper
Pens
Precut paper shapes of measuring cups and spoons, for the younger children

What to do

The idea here is first to have the children "create" recipes and then to make a "real" recipe. This will show the children how important precision and proportion of ingredients is in cooking, as well as the different effects of ingredients

1. At circle time, talk about recipes, ingredients and baking. Ask the children to think about something they would like to cook and about what types of ingredients the recipe requires.
2. Let them write or dictate their recipes on paper using words and pictures, such as ingredients, measuring cups and teaspoons. For young children, you can cut out magazine pictures of ingredients for them to choose from and paste on their paper.
3. With the children, pick one of the recipes to make together as a group.
4. Follow the steps the children have put in the recipe. Help them read the ingredients and directions and mix the ingredients in a bowl.
5. During the whole process, talk about the function of each ingredient, how it changes the mixture, what would happen if you added more or less flour, etc.
6. One part the children might find difficult is predicting the baking time. You could help them by setting a timer to their predicted time, pulling out the baked item and asking them if it seems done or what they think should be done next.
7. Another day, pick a recipe from a cookbook, read it with the children and follow the steps to bake the product.

More to do

Dramatic play: Provide play utensils for cooking and baking in this center.

Language: During circle time or other quiet indoor play time, work on a book of recipes for your school and place it in the book room.

Sand and water table: Water-table play can be used to experience and experiment with measuring cups and amounts (use words such as more, less, ingredient, liquid, solid, etc.) On a warm day, do this in a sandbox.

Billie Miteva, Pomona, NJ

3+

Day and Night Skies

Science skills
Here, children observe and use inference and fine motor skills.

Materials

Black paper, one piece for each child
Moon shapes
Cloud shapes
Glue
Sky-blue paper, one piece for each child
Sun shapes
Shiny star stickers

What to do

1. After discussing things the children can see when they look up in the sky during the day and night, give them each some pre-cut shapes and sky-blue paper.
2. Ask them to choose the shapes they see in the sky during the day and glue them on the blue paper.
3. Give the children the black paper and ask them to glue the moon shape and the star stickers all over.
4. After both papers dry, glue them back to back and hang them from the ceiling. The air will cause the papers to rotate from day to night. The nighttime stars will glitter and shine in the light.
5. As an alternative, provide the children with light-colored construction paper and encourage them to cut or tear out their own shapes for the day and nighttime sky pictures.

More to do

Art: Make a sky collage.
Math: The children can sort the shapes into categories relating to day and night.

Donna Austin, Lehighton, PA

3+

Fun With Flashlights

Science skills
Children experience cause and effect and practice observation, drawing conclusions and fine motor skills.

Materials

Blankets
Table
Flashlights of various kinds

What to do

1. Cover the table with blankets so they hang to the floor all around.
2. Place flashlights near the covered table and encourage the children to experiment with using the flashlights under the table.

More to do

Art: Make day and night pictures with chalk and black paper. Cut stars from aluminum foil or light colored paper to glue onto the night picture.
Cooking: Make pancakes for "breakfast."

Related book

Pancakes for Breakfast by Tomie dePaola

Marilyn Ewing, Richmond, TX

Twinkle, Twinkle, Little Star

3+

Science skills

This activity encourages children to talk about nature and their environment, and to use observation skills.

Materials

Styrofoam cup
Pin
Flashlight

What to do

1. Using a pin, poke holes in the bottom of a Styrofoam cup. If the children do this step, supervise closely.
2. Darken the classroom and shine the flashlight through the cup, creating a starry night on the ceiling.
3. Sing "Twinkle, Twinkle, Little Star."
4. Talk to the children about the night sky. Explain to them what stars really are, describe some of the constellations and talk about how long ago people used the stars to navigate on the seas.

More to do

More science: Help the children make their own planetariums with Styrofoam cups. Shine them on the ceiling and discuss the different designs.

Dotti Enderle, Houston TX

3+

Are You Sleeping?

Science skills

Children make a smooth transition to nap time by practicing auditory skills.

Materials

Small pillows
Blankets

What to do

1. Gather the children into a group.
2. Be sure each child has her small pillow and blanket.
3. The group sings the following song to the tune of "Frère Jacques":

Are you sleeping, are you sleeping
Little ______, Little ________,
Morning bells are ringing, morning bells are ringing,
Little ______, Little _______.

4. Fill in a child's name each time you sing the song. As each child hears her name, she lies down for nap time.

More to do

Dramatic play: Have a doll "getting ready for bed" activity. Each child takes a doll through her own bedtime routine. Have books available for nighttime stories, and end with a "Bedtime Snack" for the children.

Margaret Howard, McLean, VA

4+

Butterflies in a Net

Science skills

Children observe the earth's movement in this charming activity.

Materials

Butterfly shapes cut from dark paper
Tape
Butterfly net, or stretch a pair of nylons over a bent coat hanger frame and tape the end of the hanger

What to do

1. Tape butterflies in a bright sunny window. The sun should project the shapes on the floor.
2. Have the children "capture" (cover) the shadow butterflies with the net. Leave the net in place on top of the butterflies.
3. Check on the butterflies later. As the sun moves, the children will be amazed to see the butterflies escaping from the net. Ask the children to explain how this happened. Explain how the earth rotates and changes position.

More to do

Art: Trace black paper silhouettes of the children.
Dramatic play: Have a hand shadow or shadow puppet show.
Language: Have the children dictate or write their ideas about where the sun goes at night. Keep a journal.

Melanie Lemen, Clear Spring, MD

Day and Night

4+

Science skills

Children use their creativity and think about the differences between day and night.

Materials

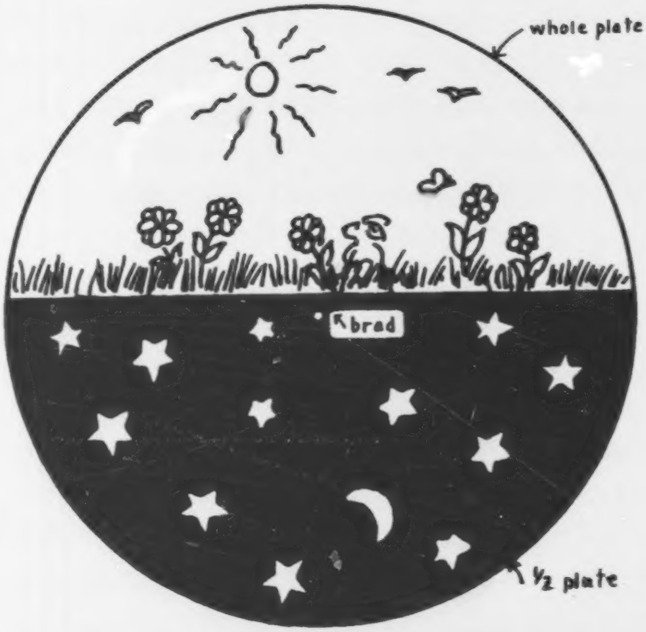
What Makes Day and Night by Franklyn Branley
Paper plates, one whole and one half per child
Colored scraps of paper
Glue
Gold/silver stars, optional
Chart paper
1 gold fastener (brad)
Scissors
Markers

What to do

1. Read *What Makes Day and Night*.
2. Discuss night and day. Make a large chart on which to compare night and day. For example, talk about sights, sounds and jobs people can do in the day or night.
3. Give each child one whole and one half paper plate.
4. Secure the half plate to the whole plate with the brad fastener; the half must be movable.
5. On the bottom of the whole plate, draw day activities with people, sun, grass, etc. On the top draw night activities with the moon, stars. Encourage the children to use their imagination.

More to do

Language: Children fill two large circles (one night and one day) with pictures from magazines and newspapers, then discuss their choices of pictures.
Math: Count sun, moon and stars in books and on posters.



More science: Make a large chart of questions about night and day. Make another chart with the headings, What We Know and What We Would Like to Know.

Related books
The Day the Sun Danced by Edith T. Hurd
Night Becomes Day by Richard McGuire

Doris Jane Smith, Lincolndale, NY

4+

Owling in the Light

Science skills
Children are encouraged to ask questions about nature.

Materials

Children as owls
Dark room
Flashlight
Rainy day

What to do
1. Sit with the children in a quiet, dark room.
2. Take a flashlight and slowly bring out the light of the moon in the middle of the circle on the ceiling.
3. Talk about the moon's light at night and how animals need it. Name some animals that would see the moon at night.

4. Discuss what happens to us if someone shines a flashlight in our eyes. How do we see? How do we feel?
5. Tell children they will be owls coming out at night. They will slowly and quietly fly around the room. Take the flashlight and shine it on an owl.
6. Discuss which light helps animals the most, light from nature or light from people?

More to do

More science: Name other animals the children could be. Then let them act out an animal at night in prey of another animal; freeze both with the light.

Related book

Owl Moon by Jane Yolen

Vera M. Peters, Elizabethton, TN

3+

Chocosaurus

Science skills
Children make observations about dinosaurs as they create a tasty treat.

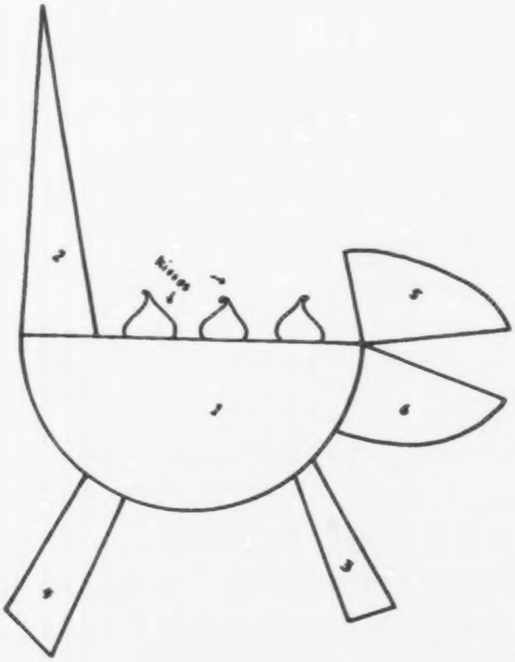
Materials

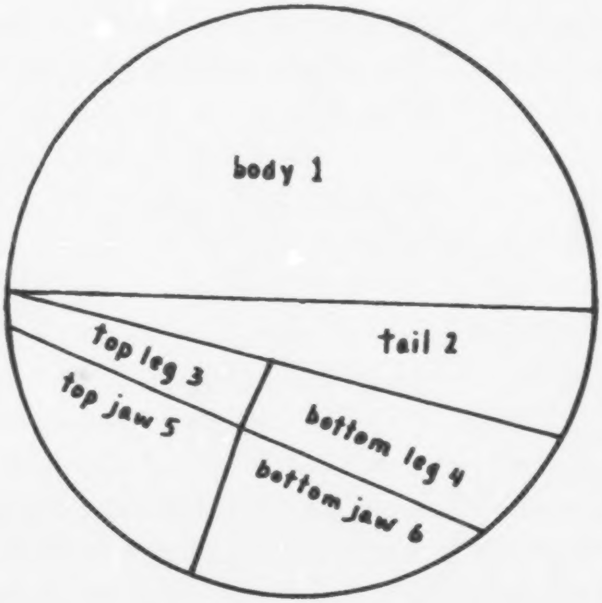
Dazzle the Dinosaur by Marcus Pfister	1 box brownie mix and ingredients
Large bowl	Wooden spoon
Springform round pan	Aluminum foil
Candy kisses, wrapped	Buttercream frosting
Cardboard or platter 16" x 16" (40 cm x 40 cm)	Knife for cutting and frosting

What to do

1. Read the book *Dazzle the Dinosaur.* Tell the children you are going to make a special dinosaur like Dazzle that they can eat!
2. Pour the brownie mix into a bowl, and as the children pass the bowl and stir, sing to the tune of "Do You Know the Muffin Man":

Oh do you know the dinosaur, the dinosaur, the dinosaur,
Oh do you know the dinosaur whose name is Chocosaurus.





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3. Pour brownie mix into a foil-lined springform pan and bake. Let cool. Show the children how you can cut a round cake and rearrange the pieces into a dinosaur.
4. Remove the cake from the pan and place it on the foil-covered cardboard. Let the children connect the cake pieces with frosting, then cover the entire Chocosaurus with the frosting.
5. Let each child come up and add a shiny chocolate kiss to the Chocosaurus' back, like the bony plates of a stegosaurus or Dazzle.
6. Eat and enjoy!

Holly Ciepluch, Whitefish Bay, WI

Tar Pit With Dinosaurs

3+

Science skills

In this fun and gooey project children are encouraged to ask questions about nature and to use fine motor skills.

Materials

Cornstarch, one boxful
Large bucket
Large plastic tray
Water
Black tempera paint
Set of plastic dinosaurs

What to do

1. In the bucket, mix one box of cornstarch with cold water until it is gooey.
2. Add black tempera to the water as you are stirring.
3. Place the "tar" into the large plastic tray.
4. Let the children help mix the "tar" together in the tray.
5. Put the dinosaurs into the "tar" and let the children creatively play with the mixture. You could add rocks, small plastic plants and a bowl for a water area.

Original songs

Pretend to be a dinosaur and sing to the tune of "I'm Being Swallowed by a Boa Constrictor":

I'm being swallowed up in the tar pit
I'm being swallowed up in the tar pit
I'm being swallowed up in the tar pit
And I don't like it very much!

Oh no, it's up to my foot,
Oh no, it's up to my knees, (waist, chest, chin...)
Oh no, it's up to my glob, glob, glob!

Vera M. Peters, Elizabethton, TN

3+

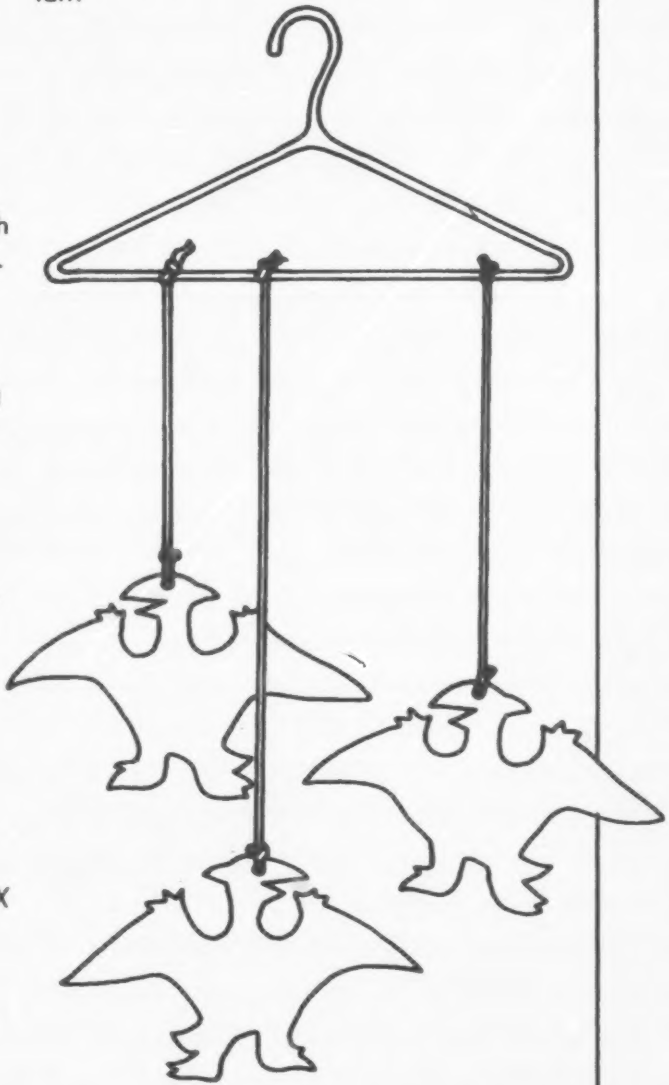
Pteranodon Mobile

Science skills

The children make observations and use fine motor skills.

Materials

Pteranodon pattern
Construction paper
Hole punch
Plastic clothes hangers
Cardboard
Scissors
Yarn



What to do

1. Copy a Pteranodon pattern onto cardboard and cut it out. This will serve as a stencil.
2. Let the children trace the stencil or draw a dinosaur freehand on construction paper. Each child will need three or more dinosaur shapes.
3. The children can watch you cut out the dinosaurs and punch a hole in each. The older children can cut them out themselves.
4. Cut a piece of yarn for each dinosaur, varying the lengths.
5. Show the children how to thread the yarn through the hole, and then you tie a knot in each to hold the yarn in place.
6. Tie the other end of the yarn to the clothes hangers. Hang and wait for a breeze to make the Pteranodons fly!

Related books

If the Dinosaurs Came Back by Bernard Most
Patrick's Dinosaurs by Carol Carrick
Time Train by Paul Fleischman
Time Flies by Eric Rohmann

Robin Works Davis, Keller, TX

Dinosaurs

How Big Were They?

3+

Science skills

Children observe just how big dinosaurs were and practice large motor skills, too.

Materials

How Big Were the Dinosaurs? by Bernard Most	Open space
Tape measure, the longer the better	Sidewalk chalk or paper tape

What to do

1. Read *How Big Were the Dinosaurs?*
2. On the playground, school hallway or sidewalk, measure six foot (2 m) lengths, marking the measurement as you go.
3. Label the measurements in a manner similar to a time line, beginning with familiar objects and gradually getting longer, for example, car, school bus, elephant, whale, etc.
4. End with the measurements of selected dinosaurs.
5. This activity will help children visualize how big dinosaurs were.

More to do

Art: Sponge paint a wall-size dinosaur picture. • Make fossil rocks from plaster of Paris.
Language: Depending on the age and ability of the children, research to find out if there are dinosaurs for each letter of the alphabet. Introduce them to the children.
Math: Create a bulletin board with hidden dinosaurs on it and count the dinosaurs.

Related books

Dinosaur Dance by Joe Noonan
Dinosaurs Came to Town by Dom Mansell

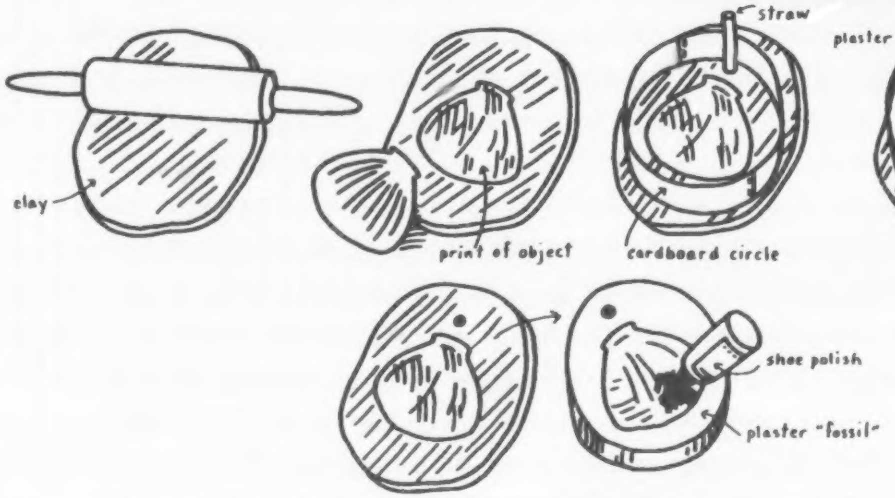
Wanda K. Pelton, Lafayette, IN

Make a Fossil

3+

Science skills

Children use their creativity, practice fine motor skills and are encouraged to ask questions about nature.



Materials

- Modeling clay
- Stapler
- Plaster of Paris
- Brown or black shoe polish
- Objects to print, such as ferns, shells, large plastic dinosaurs or animals with clear footprints
- Rolling pin
- Cardboard strips 1½" (3.75 cm) thick
- Pencil, stick or small pieces of plastic straws
- Small rags

What to do

1. Roll out modeling clay to make one slab per child.
2. Allow the children to press one selected object into the slab, then remove the object, leaving a print.
3. Staple the cardboard strips together to make rings (like headbands). Place the rings firmly around the print and push them into the clay.
4. Prepare the plaster and pour it into the molds. Make a hanging hole with a pencil or stick before the plaster dries fully. If pieces of straws are available, press them into the modeling clay before you pour the plaster. They may be removed after the plaster dries.
5. After an hour, remove the mold from the clay and the cardboard.
6. Let the children stain their fossils with shoe polish.

Note: You could also use firm mud or firm ceramic clay.

Susan R. Forbes, Holly Hill, FL

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Dig Up Dinosaurs

3+

Science skills

Children make observations, ask questions about nature and practice fine motor skills.

Materials

Bones (soup bones, soft poultry bones, large fish bones), bleached and dried
Sifters
Slotted spoons
Glue
Sand shovels
Bucket
Liquid laundry bleach
Sandbox
Cardboard
Paintbrushes
Safari hats, optional

What to do

1. Without the children, prepare the bones by boiling them in water with salt. Clean them and place them in a bucket of bleach for two hours, then remove them and place them in the sun to dry for a couple of days.
2. Bury the bones in the sandbox. Children use shovels, brushes, sifters and spoons to dig up the bones.
3. Each child glues his finds onto cardboard for display.

More to do

Math: Younger children may prefer to dig up small plastic dinosaurs and categorize them by color, size and shape. They may count sets as well. • Extend this activity for older children to include math skills as follows: divide the sandbox into quadrants by attaching string in a criss-cross fashion (using thumb tacks) over the sandbox. Assign numbers to each quadrant. Prepare cardboard by writing the numeral for each square on the back of each piece. Assign one quadrant per child to dig up artifacts. Children may compare types and amounts of bones. They may reassemble the squares in order.

Related book

Giant Dinosaurs by Erna Rowe

Susan R. Forbes, Holly Hill, FL

3+

Dinosaur Habitats

Science skills

In the process of creating dinosaur habitats, children are encouraged to ask questions about nature and also to practice fine motor skills.

Materials

Foam meat trays, one for each child
Rocks
Toy dinosaurs
Sand
Plastic plants

What to do

1. Fill the meat trays with a layer of sand.
2. Pass out the materials to each child.
3. Let the children arrange the rocks, plants and dinosaurs to create dinosaur habitats.

Related books

Big Old Bones: A Dinosaur Tale by Carol Carrick
Bones, Bones, Dinosaur Bones by Byron Barton
Digging Up Dinosaurs by Aliki

■ Robin Works Davis, Keller, TX

3+

Digging Up Dinosaurs

Science skills

Children practice large motor and counting skills.

Materials

Sandbox with sand
Egg carton
12 small plastic dinosaurs

What to do

1. After talking about dinosaurs, hide twelve plastic dinosaurs in the sand.
2. Talk to the children about how archeologists dig for dinosaur bones.
3. The children take turns finding dinosaurs.
4. When all the dinosaurs have been found, there should be one dinosaur in each egg cup in the egg carton.

Related book
Dinosaurs by Claude Delafosse and James Prunier

Sandra Hutchins Lucas, Cox's Creek, KY

Dinosaurs

Digging for Dinosaurs

3+

Science skills
Children have a chance to practice fine motor skills.

Materials

Plaster of Paris
Water
Cupcake pan lined with paper cups
Sand
Small plastic dinosaurs
Popsicle sticks

What to do

1. At least 24 hours before you plan to do this activity, make one mini dinosaur mountain for each child. Mix together 2 cups (500 ml) plaster of Paris and 5 cups (1.25 L) of sand. Add 2 cups (250 ml) of water and stir. Mixture should be fairly thick. Pour the mixture into a cupcake pan lined with paper cups. Put a plastic dinosaur in each cup while the plaster is still wet.
2. Explain to the children that they are going to become paleontologists (people who study life from long ago).
3. Give each child a mountain and a popsicle stick and explain that they are going to excavate the dinosaurs. Say that just like scientists, we must work slowly and carefully to scrape away the mountain.

More to do

Art: Let the children dip the plastic dinosaurs' feet into tempera paint and walk them across a long narrow strip of paper.

Related book
Digging Up Dinosaurs by Aliki

Cindy Winther, Oxford, MI

Dinosaur Eggs

3+

Science skills
Children observe changes.

Materials

One hard-boiled egg per child
A bowl for dipping
3 cups (750 ml) cold water
One envelope unsweetened drink mix in a bright color
Plastic wrap

What to do

1. Explain that dinosaurs hatched from eggs.
2. Let the children tap the eggs on a hard surface so that cracks form all over them.
3. Leave the shells on and set the eggs aside.
4. In the bowl, mix together the water and the drink mix. Add the cracked eggs.
5. Cover the bowl with plastic wrap and refrigerate for one day.
6. Take the eggs out of the water and peel. They look like dinosaur eggs!
7. Eat them!

Original poem

This chant is based on the book, *We're Going on a Bear Hunt* by Michael Rosen. Everyone sits in a circle. Establish a rhythm by clapping hands. Start the chant and have the children repeat each line after you.

Going on a Dino Egg Hunt

Chorus:
Going on a dino egg hunt! (repeat)
Going on a dino egg hunt (repeat)
Gonna find a big one! (repeat)

Oh look! (repeat)
What's that ahead? (repeat)
A swamp! (repeat)
Better go right through it. (repeat)
Squish, squish, squish, squish.

(Repeat chorus)

Oh, look! (repeat)
What's that ahead? (repeat)
A hot desert! (repeat)
Better go right through it! (repeat)
Pant, pant, pant, pant.

(Repeat chorus)

Oh, look! (repeat)
What's that ahead? (repeat)
An ocean! (repeat)
Better go right through it! (repeat)
Splash, splash, splash, splash.

(repeat chorus)

Oh look! (repeat)
What's that ahead? (repeat)
A grassland! (repeat)
Better go right through it! (repeat)
Swish, swish, swish, swish.

(repeat chorus)

But look! (repeat)
What's that ahead? (repeat)
A nest! (repeat)
But whose nest? (repeat)
An egg! (repeat)
But whose egg?
Tyrannosaurus Rex! Run!
Aaaaaaaaaaaagh!
Back through the grassland (repeat)
Back through the ocean (repeat)
Back through the hot desert (repeat)
Back through the swamp (repeat)
Back home again (repeat)
Whew!

■ *Robin Works Davis, Keller, TX*

Dinosaur Memory Game

4+

Science skills
This activity enhances memory.

Materials
Pictures of dinosaurs
Card stock or construction paper
Clear contact paper or laminate

What to do

1. Draw or find pictures of dinosaurs.

2. Enlarge or reduce their size on a copier to fit the size of the cards or construction paper you are using. Make two copies of each picture.
3. Color the pictures and glue them on the cards or construction paper.
4. Cover them with clear contact paper or laminate.
5. Turn all cards picture-side down and play as a memory game. Turn over two cards and see if they match. If not, turn them over again and leave them where they were. If they do match, take the cards away. Continue searching for matches.

Phyllis Esch, Export, PA

4+

Fossils

Science skills
Children are encouraged to ask about nature and to practice fine motor skills.

Materials

Clay
Rolling pins
Mats
Harvest items (leaves, corn, acorns, twigs)

What to do

1. Provide children each with a handful of clay (playdough might work also) and ask them to roll it into a thin layer on their mats.
2. Let the children select two or three items with which to make fossil prints.
3. Assist the children in gently pressing the whole item down to make a print.
4. You might display the fossils in the science area, use them for further discussion or let the children take them home.

More to do

More science: Instead of harvest items, you can use toy dinosaurs' footprints. These you could also use to study the concept of same and different and to write stories about dinosaur adventures. ▪ This would be a good activity for a week when the topic is fossils or science or nature. Use the prints to study the parts of a particular plant or item, its texture, size, etc. You can talk about the making of real fossils.

Billie Miteva, Pomona, NJ

Gummy Dinosaurs

4+

Science skills
In this activity, children practice counting, sorting, fine motor skills and also social development.

Materials

Gummy dinosaur candies
Blackboard with chalk or chart paper and marker
Large clear plastic jar
Small counting cups, one for each child

What to do

Work in small groups. Ask the children to wash their hands before this activity.

1. Put the gummy dinosaurs into the clear plastic jar and ask the children to guess how many there are. Write their guesses or estimations on the blackboard or on chart paper.
2. Ask the children whether they think there are more dinosaurs of one color than there are of the other colors. Which color is it? Write the guesses.
3. Ask the children to think of ways you could find out how many there really are.
4. Pour the dinosaurs out of the jar and ask the children to sort them by color.
5. Make a graph to show which is the color of most of the dinosaurs. Talk about which type is longest, shortest, the same size as another type, etc.
6. Check these findings against the original hypotheses or guesses.
7. Ask the children if there are other ways to sort the dinosaurs.
8. Regroup the dinosaurs into one pile and ask the children to guess how many there are.
9. Working together as a group, count ten dinosaurs into each cup. Leave leftover dinosaurs on the table.
10. Show the children how to count the dinosaurs by tens.
11. Add the remaining dinosaurs to your total to find out how many dinosaurs there are.
12. Check your findings against the original hypotheses or guesses.
13. Have the children dictate a sentence each telling about your findings.
14. As an option, you could tell the children that they may have the gummy dinosaurs if they can figure out a fair way to distribute them.

More to do

More science: This method can be used at different times of the year with gummy worms, gummy bears, animal crackers, M&M's or jellybeans.

Snack: For snack, give the children dinosaur graham crackers.

Barbara Saul, Eureka, CA

4+

How Big Was a Dinosaur?

Science skills

In this activity children practice measuring, predicting and counting, as well as fine and large motor development, and they learn about space relationships and social development.

Materials

Large playground area

Yardstick, meter stick or tape measure

Ball of string, twine or yarn

What to do

1. Read the children a book that tells the length of different dinosaurs.
2. Ask the children to estimate which dinosaur was the biggest. Write down their hypotheses or make a graph showing a variety of dinosaurs and ask the children to mark the dinosaur that they think is the biggest.
3. Tell the children that today they are going to find out how big dinosaurs really were. Take the children out on the playground.
4. Ask one child to stand at the point from which the measuring will begin and hold one end of the string. Other children help measure while others unwind the string. With the yard or meter stick, measure where to cut off the string, depending on the type of dinosaur you are measuring.
5. When the string is laid out the entire length of the dinosaur, let the children stand or lie down alongside the string and count how many children it takes to make up the length of this dinosaur. Then let the children take turns standing at one end and walking heel to toe, counting how many of their foot lengths the dinosaur measures. Ask them if there are other ways to measure the length and let them try out their ideas.
6. Ask the children to brainstorm about objects they know of that are as long as this dinosaur ("it's as big as our car" etc.).
7. Write down the measurement.
8. Repeat steps 5 to 8 for different dinosaurs.
9. With the children, check your original hypothesis against the measurements. Discuss similarities and differences.
10. Write down a dictated statement from each child about what they learned about dinosaurs and/or about measurement with this experiment.

More to do

Art: Ask the children to draw or make clay models of two dinosaurs, showing the difference in sizes.

Dinosaurs

Related books
I Can Read About Prehistoric Animals by David Eastman
Story of Dinosaurs by David Eastman

■ *Barbara Saul, Eureka, CA*

Skeletons

4+

Science skills
Children are encouraged to ask questions about nature and practice fine motor skills.

Materials
Dinosaurs by Kathleen N. Daly
Large cardboard tubes (drapery material stores will give them for free)
Duct tape

What to do
1. Read the book *Dinosaurs* by Kathleen N. Daly.
2. Explain how dinosaurs are no longer alive, but museums have skeletons of dinosaurs. Ask if the children would like to create their own dinosaur skeleton.
3. Create a GIANT skeleton together, using long and short pieces of cardboard tubes duct-taped together.
4. Children can draw and cut out smaller bones to tape to the large skeleton frame.

■ *Cindy Winther, Oxford, MI*

Dinosaur Dig

5+

Science skills
Children observe and classify, use fine motor skills and work on social development.

Materials
Commercially made wooden dinosaur model, unassembled
Poster board
Contact paper or laminate
Packing material, such as Styrofoam chips
Container for model pieces and packing material
Large mat or plastic tablecloth

What to do

1. Before you introduce the activity to the children you will need to detach the dinosaur model pieces; trace the outline of each piece on the poster board, laying the pieces out randomly; laminate the poster board for long wear; bury the dinosaur "bones" in the packing material in the container.
2. Introduce the activity at a time when you are discussing dinosaurs. Explain that paleontologists dig for real dinosaur bones and that in the classroom the children will be able to dig for pretend bones.
3. Discuss the dinosaur being used. Present its name and information, such as the time and place it lived, what it ate and its approximate size.
4. Spread out the work mat and place the container with the "bones" and packing material, as well as the poster board on the mat.
5. Open the container, uncover several pieces and match them to their outlines, pointing out that they must match the outline exactly in both size and shape.
6. Replace the pieces you have taken out, being careful to bury them well in the packing material.
7. Replace any excess packing material in the container and fold the mat.
8. Place the activity where it is available to the children and invite them to choose it during free choice time. Be sure to emphasize that part of this activity is re-burying the "bones" so the work is ready for the next person.
9. After the activity has been available for some time and all who want to have had an opportunity to choose it, sit down with the entire group of children and, with their help in finding pieces, assemble the model in finished form. After you have displayed it in the classroom for a time, it may be taken apart, buried again and saved for next year.

More to do

Math: Number each piece of the model and place the same number on the corresponding outline to allow numeral matching as well as shape matching. Be sure to draw a line under potentially ambiguous numbers such as 6 and 16.

More science: Make the activity more challenging by mixing pieces from two different models in the same container and making two poster boards to which the pieces are to be matched. • Choose dinosaurs that coexisted when they lived and discuss their possible relationship and the environment in which they lived.

Related books

David Dreaming of Dinosaurs by Keith Faulkner
The Dinosaur Alphabet Book by Jerry Pallotta
Tyrannosaurus Was a Beast by Jack Prelutsky

Susan Jones Jensen, Norman, OK

Those Dog-on Dinosaurs

5+

Science skills
Children make observations and use fine motor skills.

Materials

Books with pictures of dinosaur skeletons and human skeletons
Small dog bones or treats
Glue
Construction paper, large and small pieces
Markers or crayons
Outline of a dinosaur on paper
Scissors

What to do

1. Show the children pictures of dinosaur and human skeletons.
2. The children can use blank paper and refer to a completed example of this activity made by you or construction paper with an outline of a dinosaur on it. Those using the blank paper should lay the dog bones on the paper, forming their own outline of a dinosaur.
3. Glue these bones onto the paper.
4. With markers or crayons the children can add more detail to their pictures. Also, if they want to, the children can add additional pieces of colored construction paper for trees, grass, volcanoes, plants, clouds, etc., to enhance their pictures. They can either tear or cut the construction paper for these pieces.
5. Children use the paper with an outline on it in the same fashion as above, except they place the bones on the outline.

More to do

More science: Extend this activity by making fossils. Flatten out a small piece of modeling clay on wax paper. Choose an object such as a rock, a nut, a shell, a leaf, a pine cone, a stick or a small plastic dinosaur and press it into the modeling clay. Gently remove the object and an imprint should remain in the clay. Place this on a small plate for the children to take home. Modeling clay will not completely harden so the child can repeat this process at home with another object. They may find things of interest outside, near their homes. ▪ Show the children a book of common animal tracks. Seeing animal tracks in the mud or snow can help make clear to a child that dinosaurs also left tracks which may have later turned into fossils when they hardened.

Judy L. Zielinski, Maplewood, MN

3+

A Week of Protecting Our Planet

Science skills

This series of daily activities stimulates children to ask questions about the environment and encourages them to use fine motor skills.

Materials

Construction paper in these colors:
  manila, light blue, dark blue, light gray, dark gray, yellow, orange, brown and white
Plastic dishpan large enough to hold a piece of 8½" x 11" (20.5 cm x 27.5 cm) construction paper
Small plastic cups
Flower seeds
Two plastic spoons
Tempera paint, blue and green
2 marbles
Masking tape
White school glue
Stickers of tropical fish, flowers, gold stars
Black crayons or markers
Potting soil
Two empty margarine tubs
Paper towels

What to do

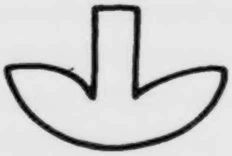
Day One

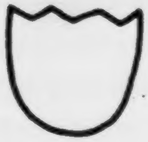
1. The teacher cuts large manila circles, 7" to 8" (17.5 cm to 20 cm) in diameter, one for each child, and puts a piece of doubled-over masking tape in the bottom of the dishpan to hold the circle in place.
2. The teacher then puts blue paint in one empty margarine tub and green paint in the other and drops a marble into each container. With a spoon, she lifts each marble from the paint and drops it into the dishpan.
3. The child tips the dishpan gently side to side and back and forth to allow the marble to put paint over the manila circle. When it is finished, the circle picture should resemble the earth.
4. The teacher removes the marbles, wipes them on a paper towel and drops them back into the paint for the next child to use.
5. The children lay the circles aside to dry. When all the circles are dry, glue each onto a piece of dark blue construction paper entitled "Our Earth."
6. The children may cut a yellow moon to glue on the paper and add gold star stickers, too.

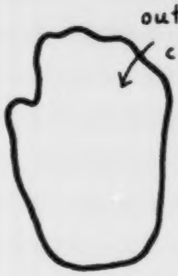
Day Two

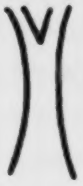
1. Give each child a piece of manila paper to paint blue to represent the ocean. Entitle this paper "Watch What You Put in the Water."
2. On pieces of light blue and orange construction paper, the teacher traces each child's hand to make two fish. The children may cut out the fish.
3. When the painted paper is dry, the children can glue their fish in the water. They may also add fish stickers.

Environment

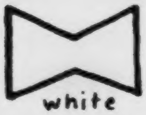


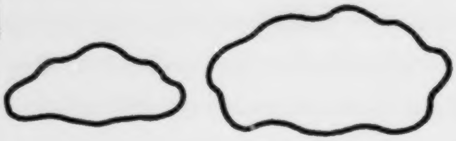






brown
ax handle





Day Three

1. The children cut different sizes and shapes of clouds from both colors of gray construction paper as well as a sun from the yellow paper. (Tearing shapes, for those who haven't mastered cutting, is fine, too.)
2. Give each child a piece of manila paper entitled "The Earth Needs Rain and Sun." The children glue the sun near one edge of the paper and two or three clouds of different sizes and shapes next to the other edge.
3. Children may wish to use crayons or markers to draw raindrops falling from their clouds.

Day Four

1. Help children design and cut out flower shapes from orange and yellow construction paper and stems with leaves from green paper.
2. Children paste their flowers onto a piece of manila paper entitled "Help Save Our Earth: Plant Flowers."
3. Then each child fills a small plastic cup with potting soil and plants three or four flower seeds in his cup. The teacher puts a piece of masking tape on each cup with the child's name on it.
4. The children take responsibility for watering their plants every few days.
5. When the plants are several inches tall, the children may take them home to plant.

Day Five

1. The teacher cuts brown strips for ax handles and white pieces into ax blades.
2. The children glue them together near one edge of a piece of manila construction paper entitled "Don't Hurt Our Forests."
3. The teacher traces each child's hand on green paper to make treetops and the children design and cut out tree trunks from brown paper.
4. The children glue the trunk and treetop near the ax.
5. You can save all of these papers and staple them together at the end of the unit with the earth picture on top to make a book about how to protect the environment.

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More to do

More science: Talk about how to save electricity by turning off the lights when we leave the classroom. Remind the children to do this at home, too. ▪ Talk about what we can do at school to help conserve resources. ▪ Ask the children to contribute their ideas to a journal containing information on ways to help conserve energy and protect our forests and the animals that live in them. Each child can take home a photocopy of the journal.

Outdoors: Take nature walks to observe the plants and trees and watch them change as they grow.

Related books

Baby Beluga by Raffi
Blue Sea by Robert Kalan
Fish Eyes by Lois Ehlert
Flower Garden by Eve Bunting
The Freshwater Alphabet by Jerry Pallotta
The Listening Walk by Paul Showers
Rain Song by Lezlie Evans
Swimmy by Leo Lionni

■ *Diane K. Weiss, Fairfax, VA*

3+

Small World, Big Words

Science skills

Children are encouraged to make observations and to develop their language skills.

Materials

Magnifying glasses
Markers
Chart paper

What to do

1. Choose an area to observe, anywhere from a field to the forest or playground.
2. Show the children how to hold a magnifying glass close to an object for observation. Looking closely at pebbles, sand and plants are good beginning activities.
3. Have children take turns using words to describe their small objects, for example, pebbles look sparkly, glittery, shiny.
4. Challenge the children to use new or different words each time. Some may even want to make up their own descriptive words.
5. Record the words on paper to keep track of variety and to use for comparing objects later.

More to do

Games: Ask each child to choose a small object secretly. The children then take turns describing their secret objects until someone guesses the item's identity. For example, my object is red, rough, glittery, hard and small. Is it a rock?

Language: Create a chart showing words the children use to describe each object:

Pebble	Leaf	Flower	Ant	Twig
shiny	smooth	colorful	wiggly	rough
hard	fuzzy	smooth	round	long
rough	jagged			bumpy
smooth				

Karen Johnson, Grand Rapids, MI

Case Dissolved

3+

Science skills

Children are encouraged to ask questions about nature and to make predictions and observations.

Materials

A clear container in which 2-3 gallons (8-12 L) of water can be clearly viewed (an old fish aquarium or very large mayonnaise jar, for example)

Various items to put into the water container, such as salt, rocks, syrup, pepper

What to do

1. Place the clear container of water in the very center of a table where everyone will be able to see clearly. Place items to be tested close by.
2. Begin with an item that will most likely dissolve in water, such as salt. Pose the question, "Will it disappear or will you still be able to see it?" Pour in about a tablespoon (15 ml) of salt and closely observe the results. Make it clear that when the salt vanishes, it is because it has dissolved.
3. Move on to a solid object like a rock. Remember to ask the question first so the children may give their guesses. When the rock sinks to the bottom, explain that a rock is a "solid" and therefore can't dissolve. Continue with the rest of the items selected for this experiment.

More to do

Art: Try watercolor painting with the children. • Make posters listing your findings of what dissolves in water and what sinks or floats, using magazine pictures to illustrate the experiments the children conducted.

More science: With the same tank of water (if it has not become too dirty or cloudy), conduct sinking and floating experiments, putting in items such as paper, corks, plastic spoons, metal spoons, lids, pencils and marbles. Ask the children to guess whether the items will sink or float.

Penni L. Smith, Riverside, CA

3+

Clean Water

Science skills

Children learn how filters clean debris from water.

Materials

Clear jars	Cheese cloth or cotton cloth
Soil	Rubber band
Sand	

What to do

1. Pour water into a clear jar. Add some soil. Stir.
2. Spread the cheese cloth or cotton cloth over the opening of another jar and hold it in place with a rubber band. Pour sand onto the cloth.
3. Slowly pour the water with soil through the sand on the cloth and into the clean jar.
4. The water poured through the sand should be cleaner than the water in the original jar.

Related book

The Magic School Bus at the Waterworks by Joanna Cole

Monica Hay-Cook, Tucson, AZ

4+

Weighing Waste

Science skills

Here's an experiment to raise the children's understanding of and enthusiasm for recycling.

Materials

Scale	Classroom trash
Chart paper and marker	

What to do

This is a good project to help launch a study of recycling.

1. Throw all your classroom waste into a trash can lined with plastic bags, but before you take it out to be picked up by the trash collectors, weigh each bag on the scale. Do this for about one week.
2. Write the weight of the bags on a chart.

3. The second week, recycle as many things as you can, such as newspapers, aluminum and plastic bottles, and weigh only the trash you put out for the trash collectors.
4. Compare the weight of the bags this week with the week before. How much trash weight did you save? Congratulate the children on their recycling efforts.
5. Now that the children see how much is normally put into the trash that can actually be recycled, let them help to devise a system for recycling materials on a regular basis.

Related books

Recycle by Gail Gibbons
Where Does All the Garbage Go? by Melvin Berger

Monica Hay-Cook, Tucson, AZ

Litter Walk

4+

Science skills

In cleaning up a public space, children are encouraged to ask questions about their environment and to practice fine and large motor development.

Materials

Wartville Wizard by Don Madden	Plastic gloves for each child
Plastic grocery bags with handles	Polaroid camera

Safe area where there is human-made litter, for example, a playground, park or recreation area

What to do

1. Read the story *Wartville Wizard*. Discuss how the children's families get rid of their waste. Discuss the meaning of the word litter and the difference between human-made and natural litter. Children sometimes pick up sticks and leaves. Explain that this is natural litter.
2. Tell children that you will be going on a litter walk. Explain that they will be picking up human-made litter so they must wear gloves to protect their hands. Tell them not to touch any broken glass or items with sharp edges.
3. Take several pictures of the area before children pick up any litter, while they are picking up litter and after the area is clean. Later, post these on a bulletin board.
4. Take the litter back into the classroom. Dispose of the litter properly.

More to do

Language: Ask the children to dictate or write sentences about the litter walk. Staple them to the bulletin board.

More science: Before you dispose of the litter, select pieces of litter that are a sampling of what was found. Glue your selections to a large piece of cardboard. Write the sentence "Did you drop something?" on the cardboard. Display the litter collage in an area where other classes can see it.

Deborah A. Chaplin, Hot Springs, VA

4+

The Earth Is Our Only Home

Science skills

By looking close to home, children make observations about the environment and are encouraged to ask questions about recycling.

Materials

Box of biodegradable trash bags
Large poster board
Markers
Magazines
Glue

What to do

1. As a group, prepare a poster using pictures from magazines to help children understand what ecology and recycling are and how important they are for everyday living and for the future. Cut out pictures of plastic items such as dish soap, soda containers, and so on. Find something to illustrate aluminum cans, glass jars and bottles, etc. Cut out a picture of anything that is considered a recyclable product. The pictures on the poster can serve as reminders that those items can be used over again and need not be tossed out into our overcrowded landfills.
2. Check with various recycling centers to find out what they take and what they don't. List on the poster the many things that can be recycled, such as newspapers, telephone directories, magazines, glass jars and bottles, milk cartons or jugs, aluminum cans or clean foil, egg cartons, cardboard, etc. Now, with the children, start to think about how things can be improved in your classroom according to your poster.
3. Group clean-up can be fun and helpful. Teach your class the song, "We Need to Care for Earth," below. Hand out the recyclable trash bags. Go on a walk around your center, or a park area, gathering items that have been discarded. Assign one or two children to look only for aluminum cans, one or two to look for plastic bottles, others to look for newspaper, and so on. Encourage the children to bring in items to recycle from home and have their neighbors save their recyclables as well.
4. When you have collected enough, take a trip to a recycling center and cash in the money to buy seeds for a garden. Also, begin a compost bin to create mulch to use in your garden. Enlist the aid of a carpenter who can make a simple wooden box with a latched lid in which to make the mulch.
5. Explore other opportunities to gather together to make a better and cleaner world.

Original songs

Sing to the tune of "The Farmer in the Dell."

We need to care for Earth
We need to care for Earth

Environment

We're the only ones who can
We need to care for Earth.

We need to plant some trees
We need to plant some trees
We need trees so we can breathe
We need to plant some trees.

We need to make less trash
We need to make less trash
Recycling is a real good thing
We need to make less trash.

So, we need to help our Earth
We need to help our Earth
Every day along our way
We're going to help our Earth.

■ *Penni L. Smith, Riverside, CA*

3+

Signs of Fall Hunt

Science skills

Children first brainstorm, then hunt to find fall treasures.

Materials

Colored leaves
Other signs of fall
Pumpkins and squash
Large paper bag

What to do

1. Talk to the children about some signs of fall. Perhaps also read a story about fall.
2. Children help you make a list of some signs of fall. Think of as many as you can.
3. Take the children outside and hunt for the items on the list. Collect them in a large paper bag.
4. When you come back inside, look at each item and talk about it. Leave the items out on a special table for the children to explore.

More to do

More games: Hunt for signs of spring, summer and winter, too. Hunt for signs of various holidays, such as pumpkins for Halloween or evergreens for Christmas.

Related books

Fresh Fall Leaves by Betsy Franco
When Autumn Comes by Robert Maass

■ *Susan Rinas, Parma, OH*

3+

Woody Woodchuck and Sally Squirrel

Science skills

Through a charming story, children hear about hibernation and other wintertime habits of animals.

Materials

Stuffed animals or puppets

What to do

1. Tell the following story using stuffed animals or puppets to act out the story:

Fall

One fall morning Woody Woodchuck headed straight for Mrs. North's garden. Autumn winds were blowing leaves, red, orange, yellow and gold, right across his path. Woody scampered along even more quickly when he noticed the falling leaves and the wind. "I must eat as much as I can to fatten myself up. Soon winter will be here and I will sleep in my cozy underground burrow."

All of a sudden someone came racing along the path, knocking Woody over and falling over herself. It was Sally Squirrel. Her apron had been full of nuts that were now scattered all over the path. "Oh my, I have so little time left," Sally said. "Prince Autumn has come. I must gather many nuts and acorns, for once King Winter comes it will be difficult to find food." She looked up high in the treetop at her nest of leaves. Already she had buried nuts in the ground all around the tree, stuffed some in a hollow spot, and even carried a few to her nest.

She turned to Woody. "Excuse me, I'm sorry, I didn't hurt you did I? It's just that I'm in such a hurry! Do you understand?" Woody picked himself up and shyly shook his head. "No, frankly, I don't understand why you're hiding those nuts. Shouldn't you be eating as many as you can find?" "Oh no," said Sally. "I need to store those away to eat during the cold winter days when the trees are bare and little food will be found." "But don't you sleep underground all winter like I do?" asked Woody. "No, no!" Sally shook her head. "I spend a lot of time in my nest, but I'm up and about, too. I visit Mrs. North's bird feeder every morning for a sunflower seed breakfast. I lunch on nuts dug up from hidden stores...."

The wind seemed to sing a song:

"Squirrel Nutkin has a coat of gray
Quite the loveliest in the wood today.
Two bright eyes look round to see
Where the sweetest nuts may be."

Woody waved a shy good-bye and was soon eating the cabbages in Mrs. North's garden. Soon he would be plump and full and would spend the winter sleeping and dreaming in his burrow.

Sally began to bury an acorn. She would have plenty to eat during the winter. The autumn wind blew more leaves of red, orange, yellow and gold!

More to do

Art: Make a picture bulletin board with the children illustrating Sally climbing to her treetop nest and Woody sleeping in his underground nest. Show other animals who are asleep, such as chipmunks, or awake, such as deer.

Outdoors: Feed the birds during the winter.

Related books and recordings

Chipmunk Song by Joanne Ryder
Squirrels by Brian Wildsmith
"Come, Little Leaves" and "Hurry, Hurry, Hurry" in *Sing Through the Seasons: Ninety-Nine Songs for Children* edited by Society Brothers Staff
"Squirrel Nutkin" in *Sing Through the Day: Ninety Songs for Younger Children* edited by Marlys Swinger

Linda Atamian, Charlestown, RI

3+

An Observation Walk in Autumn

Science skills

Children ask questions about nature and practice classification and fine motor skills.

Materials

Four shoe boxes
Four index cards
Four crayons or markers: orange, red, brown and yellow

What to do

1. Using four index cards, print the name of one of the four colors listed above on each card. For example, print BROWN with a brown marker. Tape each card onto one of the shoe boxes.
2. Put the boxes on the science or discovery table.
3. The teacher brings four differently colored leaves into the classroom and shows them to the children. Discuss the four colors and find various objects with those colors in the proper room.
4. Take the children on an observation walk to gather various colored leaves.
5. Bring the leaves back to the classroom and children take turns placing them in the color-coded boxes.

More to do

More science: Keep the boxes on the science table for about a week so children may continue to add leaves and other collected natural items to them.

■ *Elaine Commins, Atlanta, GA*

3+

Fall Wreath

Science skills

Children think about and search for signs of fall, then create their own display of natural seasonal items.

Materials

Heavy white paper (watercolor paper or tagboard works well)
Glue
Red or orange watercolor paints or crayons
Hole puncher
Red yarn
Fall objects such as dried leaves, milkweed seeds, acorns, pressed flowers, berries, wheat stalks

What to do

1. Cut wreath shapes out of paper and punch a hole at the top of each.
2. The children can paint or color the wreath shape. Let dry.
3. While the wreaths are drying, go outside on a fall hunt for items such as acorns, dried leaves, twigs, etc.
4. Back inside, spread the items out on a table. Let the children select the fall items they want for their wreath and glue them on.
5. When the wreaths are dry, tie yarn in a loop through the hole at the top of the wreath for hanging.

More to do

Art: Make other seasonal wreaths. For spring, make heart-shaped wreaths and use paper doilies and dried flowers tied with pink ribbons. For summer, make a beach wreath using dribbled sand, seaweed, shells, bay leaves, pebbles, etc. For winter, use cones from different evergreens (especially little hemlock cones), nuts like almonds, whole cinnamon and star-shaped anise, nutmeg gold stars and red ribbon.
Math: Collect extra fall items and place in a basket for sorting or counting practice.

Related books

Red Leaf, Yellow Leaf by Lois Ehlert
Chicken Soup with Rice by Maurice Sendak

Linda Atamian, Charlestown, RI

Leaves Change Color

3+

Science skills
Children learn new words for leaf pigments.

Materials

Why Do Leaves Change Color? by Betsy Maestro
Fall leaves of various colors

What to do

1. Read the book and discuss with the children the color change process.
2. Tell the children the names of the pigments responsible for the change: xanthophyll, carotene and anthocyanin.
3. Take the children on a fall walk to collect colored leaves.
4. Gather them together in a group and teach the pigment names using the leaves as visual aids and the rhyme below.

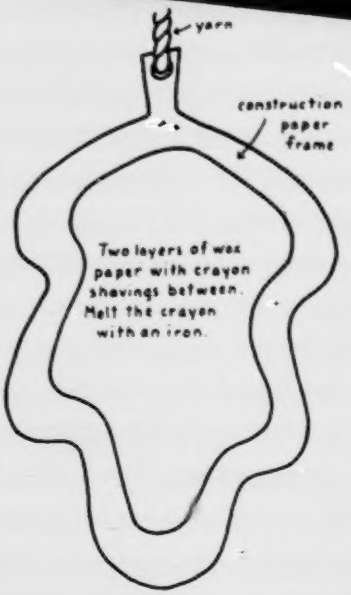
Original poem

Xanthophyll, xanthophyll
Pretty yellow fellow
When it turns old, he makes leaves gold
Xanthophyll is yellow.

Carotene, carotene
It's orange as can be
When fall is near, orange leaves are here
Carotene is orange.

Anthocyanin, anthocyanin
It makes red so bright
Inside the leaves it hides till fall
And turns leaves red out of sight!

Lisa M. Lang, Parkersburg, WV



yarn
construction paper frame
Two layers of wax paper with crayon shavings between. Melt the crayon with an iron.

3+

Fall Leaf Mobiles

Science skills
Children practice fine motor skills.

Materials
Leaf patterns
8½" x 11" (22.5 cm x 27.5 cm) paper
Scissors
Small sponges made by cutting a large sponge into 2" x 3" (5 cm x 7.5 cm) pieces
Small cups of tempera paint: red, yellow, orange, brown
String or yarn, 24" (60 cm) long
Stapler

What to do

1. Trace three or four leaves onto one 8½" x 11" piece of paper (see next page).
2. Make a copy of the leaf page for each child.
3. Show the children how to sponge paint the leaves.
4. Give each child a leaf page and let her sponge paint them.
5. After the pages are dry, the children may turn the paper over and sponge paint the whole backside of the paper. They may like to draw their own leaf designs to sponge paint.
6. When both sides are dry, ask the children to cut out the leaves.
7. Help the children attach the leaves to the length of yarn with a stapler.
8. Hang the leaf mobile by one end of the yarn and watch the falling leaves.

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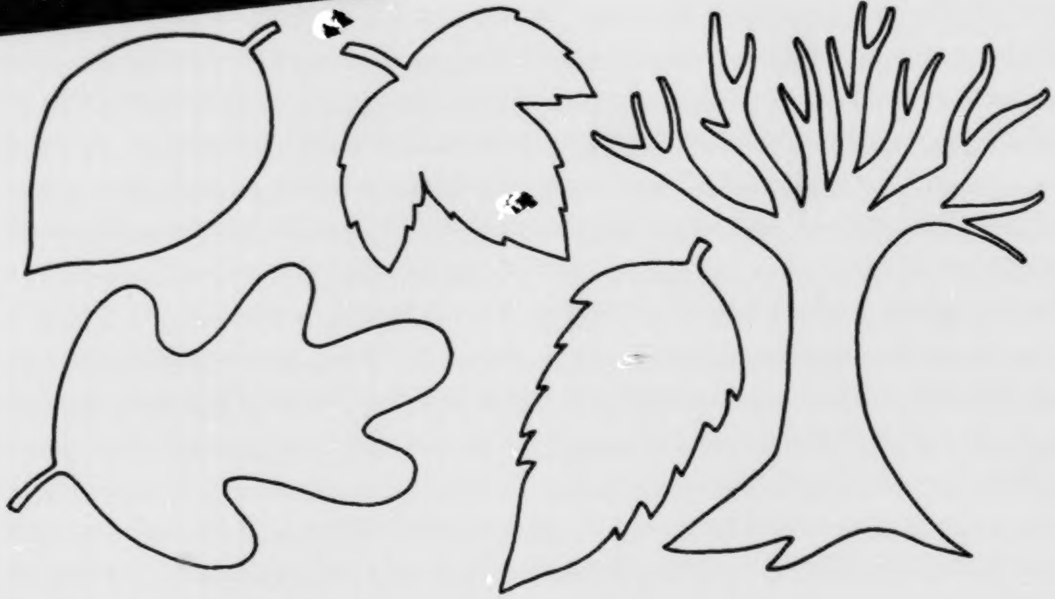


More to do

Art: Give each child a blank sheet of drawing paper and ask them to use brown crayons to draw a tree trunk. The children will enjoy using the sponge painting technique to make fall foliage on their tree.

Related books

Have You Seen Trees? by Joanne Oppenheim
Red Leaf, Yellow Leaf by Lois Ehlert
Squirrels by Brian Wildsmith

Barbara Saul, Eureka, CA

Fall Leaf Windows

3+

Science skills
Children make observations and practice fine and large motor skills.

Materials

Assortment of fall leaves
Clear contact paper or wax paper
    (if you use wax paper, you will also need liquid starch and an iron)
Newspaper or easel paper
Scissors
Construction paper
Stapler
Tape
Crayon shavings, optional

What to do

1. Take the children on a walk in the neighborhood to collect fall leaves, or ask them to bring fall leaves from home.
2. Working in small groups, ask each child to select 3 to 5 leaves.
3. If you use contact paper, cut a sheet about 11" x 17" (27.5 cm x 42.5 cm). Help each child arrange the leaves on half of the contact paper, sticky side up.
4. Fold the contact paper in half, matching edges and enclosing the leaves.
5. If you use wax paper, give each child two pieces, about 8" x 10" (20 cm x 25 cm).
6. Let the children arrange their leaves on one piece of wax paper. Crayon shavings may be sprinkled on top for additional color.
7. Paint the other piece of wax paper with a coat of liquid starch. Place the wax paper starch-side down on top of the leaves.
8. Cover the ironing surface with newspaper or easel paper.
9. Iron the two pieces of wax paper together, sandwiching the leaves between the two.
10. Help the children cut strips of the construction paper to make a frame for their leaf window.
11. Display the windows in a real window in the classroom.

More to do

Art: Use leftover leaves to make leaf rubbings. Cover some leaves with newsprint. Use the sides of crayons to gently rub the paper until an imprint is made.
Language: Brainstorm how the leaves are different from each other.
Math: Encourage the children to sort the leaves in their collections by shape, color, etc.

Barbara Saul, Eureka, CA

3+

Our Wreath

Science skills
Children practice social development as they work together on a fall class project.

Materials

Leaves, twigs, small pine cones, seeds
Glue
Ribbon (plastic or fabric)
Large piece of heavy cardboard
Scissors

What to do

1. Cut one large circle out of cardboard. Cut another smaller circle out of the center; the result should be a big doughnut shape.
2. Take a field trip outside with the children to collect leaves, twigs and small natural items reflective of the fall season.
3. Spread out all the leaves, twigs, etc. on an art table. Put the pre-cut wreath form in the center of the table.
4. Ask the children to select several of the items and take turns gluing some of the fall treasures onto the wreath. Note how with each child's addition the wreath is enhanced.

5. At the top of the wreath, the teacher can add a plastic or fabric bow.
6. Hang the fall wreath to remind the children of the fun you had working together on the project and as a focal point for continuing discussions of the fall season.

More to do

Language: Use this activity as an introduction to a discussion of the various changes in the outdoor world as fall arrives. Children could also describe the different colors and shapes of the natural items they collect, and compare their findings with those of other children.

Catherine McEntyre, Camarillo, CA

October Science Table: Signs of Fall

4+

Science skills
Children practice observation and identification.

Materials

Large table
Construction paper in fall colors
7 or 8 same-sized shoe boxes, covered with contact paper
Yellow tagboard
Crayons
Leaves
Reference books about trees and leaves

What to do

1. Beforehand, make a sign reading "Signs of Fall" out of construction paper. Put the sign and the shoe boxes together in an area.
2. Make signs for the boxes, for example, oak, maple, poplar, sassafras, hickory, dogwood, etc. and one for "mystery" leaves. The signs can include the shape of the leaves, too.
3. Ask the children to bring in examples of leaves and then match them to the appropriate picture and box.
4. If there is no match, put the leaf in the mystery box.
5. Teacher and children look up mystery leaves in reference books.

More to do

Art: Make leaf place mats by placing 6 to 8 leaves on a piece of wax paper 12" x 18" (30 cm x 45 cm) and covering this with a second sheet of wax paper. Cover with padding. Slowly iron the surface to melt the wax. Trim the edges. ▪ Make leaf prints by first placing a leaf on newspaper and then rolling a paint-filled brayer over the leaf. Flip the leaf over onto a piece of paper and press gently.

Related books
Silly Sidney by Morgan Matthews
Trees of North America by C. Frank Brockman

Eileen E. Crocker, White Hall, MD

4+

Autumn Hunt

Science skills
On a walk on a crisp fall day, children ask questions about nature and practice fine and large motor skills.

Materials

Paper lunch bags	Pictures of fall finds
Paper	Markers, crayons

What to do
1. Talk with the children about how autumn is different from the other seasons. Discuss things they may find on a walk.
2. Give each child a paper bag and a list with pictures of things to look for on their autumn hunt.
3. When you return from your walk, the children can take their list and bag to the Art Center and make pictures of the things they found.

More to do
Art: Bring extra finds back for the Art Center. Children can glue and color their own autumn scenes.
More science: Bring your own finds back to display in the Science Center.

Related books
Fall Is Here, I Love It by Elaine W. Good
Look What I Did With a Leaf by Morteza E. Sohi
Why Do Leaves Change Color? by Betsy Maestro

Sandra Hutchins Lucas, Cox's Creek, KY

Musical Leaves

5+

Science skills
In this game, children learn identification and observation.

Materials

Leaves made of construction paper, fabric or real leaves from any tree native to the area in which you live
Small brown lunch bag
Portable cassette or CD player
Cassette or CD with children's music

What to do

1. If you use paper leaves, prepare them in advance. Also ahead of time, you should show pictures of various trees and identify their leaves. Let the children practice identifying various leaves.
2. Seat the children in a circle. Randomly choose a leaf, place it in the brown bag and close it up. Children should not see which leaf you choose.
3. Play music while the children pass the bag around the circle. When the music stops, the child with the bag takes out the leaf and identifies it.
4. Pick a new leaf to go in the bag. Play proceeds until each child has had at least one turn.

More to do

Art: Make a collage together from the leaves the children have collected.
More science: Take a fall walk and encourage the children to pick up leaves, or bring leaves from home. Identify them. • Use silk or construction paper flowers to help the children learn to identify flowers.

Related books

Crinkleroot's Guide to Knowing the Trees by Jim Arnosky
Red Leaf, Yellow Leaf by Lois Ehlert
Why Do Leaves Change Color? by Betsy Maestro

Mary Rozum Anderson, Vermillion, SD

3+

Crushing Corn

Science skills
Using all their senses, children make observations and predictions and use fine and large motor skills.

Materials

Indian corn
Popcorn kernels
Flat rock, concave in the middle
Mortar and pestle
Field corn
Tray
Round rock
Big bowl

What to do

1. Show the children the different kinds of corn and let them use all their senses (except taste) to explore it.
2. Ask questions, closed and open ended, such as, could we eat the corn? What does it smell, feel, look like? What could we do with the corn?
3. Let children know what they will be doing with the corn by demonstrating step five. Explain that this is how Native Americans used to make food and how people in other cultures make their food now, for instance in Central and South America.
4. Children can take the corn off of the cobs and put the kernels into a plastic jar.
5. Put the Indian corn on the flat rock on a tray and crush with the round rock. You can also put the Indian corn in the mortar and crush it with a pestle.
6. Repeat step five using the field corn, then the popcorn.
7. Now put the crushed corn on the tray, and let the children play with it using their fingers.

More to do

Field trip: Visit a local farm that grows corn.

Original song and poem

Sing to the tune of "Ten Little Indians."

1 piece, 2 pieces, 3 pieces of corn
4 pieces, 5 pieces, 6 pieces of corn
7 pieces, 8 pieces, 9 pieces of corn
10 pieces that look so good!

Five Stalks of Corn

5 stalks of corn all standing in a field.
The first one said it's almost time to be picked.
Second one said look, there is a crow!
Third one said oh no! oh no!

Fourth one said let's sway in the wind.
Fifth one said I hear a noise.
Chug, chug went the tractor, crash went the corn!
Yum, yum said all
the little girls and boys.

Related book

Corn Is Maize: The Gift of the Indians by Aliki

Darleen Schaible, Stroudsburg, PA

Baking Corn Muffins

3+

Science skills

The children practice a range of skills, such as observation, measurement, social development and fine motor.

Materials

Baking aprons or smocks
¾ cup (175 ml) flour
1½ teaspoon (7.5 ml) baking powder
_ cup (60 ml) oil
Large bowl
Measuring cups and spoons
Muffin papers or oil
¾ cup (175 ml) cornmeal
½ cup (125 ml) sugar
¾ cup (175 ml) milk
1 egg
Mixing spoon
Muffin tins
Oven

What to do

1. Ask the children to wash their hands and put on baking aprons.
2. Show them how to measure first the dry ingredients and then the wet ingredients into the bowl. Let them take turns so everybody has a chance to measure and/or add an ingredient. Mix well to combine.
3. Put muffin papers in muffin tins, or lightly oil the tins. Then fill muffin tins ⅔ full.
4. Bake in an oven at 350°F (180°C) for 25 to 30 minutes. Eat and enjoy!

Darleen Schaible, Stroudsburg, PA

Dandelion Dip

3+

Science skills

Children learn about something unfamiliar by observing and using all their senses.

Materials

Freshly cut dandelion leaves (best in early spring)
Paper towels
Large tray for leaves
Two small clear glass bowls for dipping
Olive oil
Balsamic vinegar
Small paper plates

What to do

1. Take the children outdoors to gather fresh dandelion leaves. New early shoots are best!
2. Wash the leaves and dry them on paper towels. Place them on a tray.
3. Allow the children to serve themselves and to dip the leaves into the oil and then the vinegar.
4. Enjoy!

More to do

Math: Make a graph of the children's responses, their likes and dislikes. Bring a clump of dandelions into the classroom for observation. Conduct a survey on how many dandelions are in the children's yards.

Related books

Barney Bipple's Magic Dandelions by Carol Chapman
The Silver Dandelion Pop-up Surprise Book by Gill and John Speirs

Cathy Costantino, Carol Patnaude, Lynn R. Camara, Warwick, RI,
and Darlene Maloney, East Greenwich, RI

3+

Food Colors

Science skills

Children make observations and predictions and use visual skills.

Materials

Paper plates in different colors
Pictures of food
Laminating machine or contact paper

What to do

1. Laminate uncolored pictures of food.
2. Have available the plates of different colors. You can spray paint plates if you can't find particular colors you want.
3. Have the children choose a picture of a food. Talk about food and the different colors that food is.

4. Encourage the children to place the pictures on the plate that is the color that their food should be.

Related book
Today Is Monday by Eric Carle

Sandra Hutchins Lucas, Cox's Creek, KY

Jack Wax

3+

Science skills
Children observe the effect of icy cold.

Materials
Pan of ice
Maple syrup
Toothpicks

What to do
1. Make a pan of solid ice.
2. Pour maple syrup over the top.
3. Lift the frozen syrup, jack wax, with toothpicks and eat! Yummy!

More to do
More science: We make syrup by tapping a maple tree, hanging a bucket on a spile, or spike, and then boiling down the sap.

Related book
Pancakes for Breakfast by Tomie dePaola

Andrea Clapper, Cobleskill, NY

Friendship Fruit Salad

3+

Science skills
The children practice fine motor skills and social development.

Materials

Assortment of fruits: apples, oranges, grapes, raisins, pineapple, bananas, pears, coconut, Maraschino cherries
Miniature marshmallows
Plastic knives
Large wooden spoon
Plastic spoons, one per child
Chart paper
Whipped topping, one container
Individual cutting boards, several
Small serving bowls, one per child
Markers

What to do

1. Introduce the concept of friendship by reading a poem, brainstorming related words/ideas or sharing a short story from *Frog and Toad Are Friends* by Arnold Lobel.
2. Emphasize the qualities of helping and sharing in relation to being a good friend.
3. Explain that the class will be making Friendship Fruit Salad for snack. Give each child a parent letter describing your class project and requesting the donation of one ingredient. (The ingredients list can be adjusted to match the number of children in your class.)
4. When all ingredients have arrived at school, let children wash their hands, wash and peel (if necessary) the fruit, and work in small groups to chop fruit and open cans.
5. After the children have prepared all ingredients, sit together as a class. Have individual children place each ingredient in the bowl as you write a rebus recipe on chart paper. When all ingredients have been added, stir and serve.

More to do

Art: Dip half of each of several different pieces of fruit in shallow containers of tempera paint to make fruit prints. Let the children use the fruit to make prints on brightly colored construction paper. When dry, the different fruit prints can be identified and labeled.
Language: Save seeds from several types of fruit for planting or sprouting. Keep a daily log to record class observations of the seeds' growth. • Have children work in groups to write and illustrate stories about each seed. This is a great way to reinforce story sequence by emphasizing the idea of beginning, middle and end.

Related books

A Book of Fruit, photographs by Barbara H. Lember
Eating the Alphabet: Fruits and Vegetables from A to Z by Lois Ehlert
Growing Colors by Bruce McMillan

Rebecca M. McMahon, Scranton, PA

Food

Making Peanut Butter

3+

Science skills
Children observe and help with the making of a favorite food.

Materials

Roasted unsalted peanuts	Blender
Plastic spatula	Peanut oil
Crackers	

What to do

1. Pour one cup (250 ml) of peanuts into the blender.
2. Add about 1 tablespoon (15 ml) of peanut oil.
3. Set the blender on "grind" and run it several minutes until the peanuts are ground smooth, stopping periodically to scrape the sides of the blender with the spatula.
   The following rhyme is fun to use with this activity:

   A peanut sat on the railroad track,
   His heart was all a flutter–
   A train came roarin' 'round the bend–
   "Toot! Toot! Peanut butter!"

4. Spread the peanut butter on crackers and enjoy!

More to do

Math: Let the children practice filling the measuring cup with peanuts and point out one-half, three-fourths and one cup.

Mary Jo Shannon, Roanoke, VA

Mystery Seeds

3+

Science skills
Children learn observation and matching skills.

Materials

Seeds from these fruits and vegetables: apple, orange, watermelon, squash, beans, peach,

plum, apricot, corn, mango, papaya, pumpkin, nuts, cherries, sunflower, tomato and cucumber
Whole fruits and vegetables
Index cards

What to do

1. Cut the whole fruits and vegetables in half to expose their seeds.
2. Make a simple matching game by extracting some seeds from the fruits and vegetables and gluing them on cards.
3. Children match the seed cards with the plant half.

More to do

More science: Children can take turns trying to identify the fruits and vegetables by smell and taste.

Related book

The Carrot Seed by Ruth Krauss

Susan R. Forbes, Holly Hill, FL

3+

Orange Juice

Science skills

Children make observations and predictions and use fine motor skills.

Materials

Oranges or grapefruits
Hand juicer
Cups
Vegetable brushes
Electric juicer
Marker

What to do

1. Wash the oranges with vegetable brushes.
2. Juice some with the hand juicer and some with the electric juicer.
3. Ask the children how many seeds they think are in an orange? How much juice do they predict they will get? Draw a line on a clear plastic cup and see how close the estimates are.
4. Plant the seeds.
5. Use the empty rinds to make bird feeders by filling them with birdseed and poking holes in the sides to hang them from a tree.

Kristina Davis and Anne M. Sullivan, Seminole, FL

The Fruity Tooty Riddle Game

3+

Science skills
Children practice social development and observation.

Materials
A tray with an apple, banana, lemon, orange, tomato, plum, kiwi, peach, grape, watermelon

What to do
1. First introduce the children to the fruits on the tray. Discuss why fruits are good for our bodies.
2. Now tell them that they are going to play the Fruity-Tooty Riddle Game.
3. Tell each child a riddle from the list that follows.
4. If a child tries to guess the answer and has trouble, other friends can help.
5. After a child has given the correct answer, he may select and eat the fruit that corresponds to the riddle.
6. Follow up the riddle game with a tasting party.

Riddles
1. *I am green on the outside, pinkish red on the inside and usually have black seeds. (Watermelon)*
2. *You can eat me as a fruit or squeeze me for juice. I have lots of vitamin C, and I am an orange color. (Orange)*
3. *I am round and red and I grow on a vine. Some people think I am a vegetable but I'm really a fruit. (Tomato)*
4. *I can be red or yellow or green. I grow on a tree, and I have a star inside. (Apple)*
5. *I am very sour inside and I can make your mouth pucker. (Lemon)*
6. *I am hidden inside a yellow skin. Monkeys as well as children like to eat me. (Banana)*
7. *I am brown on the outside and green within. I have the same name as a bird. (Kiwi)*
8. *I am purple on the outside. I am purple on the inside, and my name starts with a P. (Plum)*
9. *I grow on a tree, and my skin is very soft and fuzzy. I am a pinkish color, and I'm very sweet. I usually grow in the summer. (Peach)*
10. *Sometimes I'm green and sometimes I'm purple. If I am dried in the sun, I become a raisin. (Grape)*

Related recording
"Corner Grocery Store" by Raffi

Diann Spalding, Santa Rosa, CA

3+

The Veggie Game

Science skills
Children practice observation and work on their social development.

Materials

A tray with these vegetables on it: carrot, onion, celery, broccoli, potato, Brussels sprout, green pepper, head of lettuce, zucchini

What to do

1. Introduce the children to the vegetables on the tray.
2. Discuss why vegetables are good for our bodies.
3. Announce that you are going to play the Veggie Riddle Game.
4. Tell each child a riddle from the list that follows. Each tries to guess to which vegetable the riddle is referring. (If a child has trouble, then other friends in the circle may join in and help.)
5. After a child has given the correct answer, he may select and eat the vegetable from the tray that corresponds to the riddle.
6. Cut up the remaining vegetables, make a dip and have a tasting party to review.

Riddles

1. *I am long and orange and you can eat me raw or cooked. (Carrot)*
2. *I can be yellow, red, white or green. Sometimes I can be very hot. People often eat me on their hamburgers. (Onion)*
3. *I am crunchy and green. I often have little strings on me. Sometimes children enjoy eating me with peanut putter. (Celery)*
4. *I look like a group of little trees with stems and green leaves. I am very good for you. (Broccoli)*
5. *You can cook me many different ways; I can be mashed or fried or baked. I can be red, white, brown or even purple, and I have little eyes on my skin. (Potato)*
6. *I look like a green cabbage and I'm full of Vitamin C, but I am very cute and small. (Brussels sprout)*
7. *I am sometimes green, sometimes red and sometimes yellow. But I almost always have a bell shape. (Pepper)*
8. *I am long and green. Inside I am a whitish color. Some cooks use me in breads or cakes and as a vegetable for dinner. (Zucchini)*
9. *I am green and round. People use my leaves for salads or for sandwiches. (Lettuce)*

More to do

More science: Place vegetables in a bag. Have each child pick one vegetable out and tell what it is.

Related recording
"Corner Grocery Store" by Raffi

Diann Spalding, Santa Rosa, CA

Dancing Raisins

4+

Science skills
Children have fun observing and making predictions in this experiment.

Materials

Chart paper
Clear plastic cups
Box of raisins
Marker
Club soda or flavored seltzer

What to do

1. Discuss the experiment with the children and talk about what you are going to do.
2. Describe how scientists make predictions called hypotheses and ask the children what their hypotheses about the experiment are. Write each hypothesis on chart paper.
3. Demonstrate the experiment by first filling a glass halfway with club soda or seltzer, then quickly putting five raisins in the glass, one at a time. Soon you will be able to see the raisins move up and down and do flips. The bubbles make them move.
4. Explain that the bubbles are filled with gas and when the bubbles cover the raisins, the raisins rise and appear to dance. Discuss the class hypothesis. Then you can give each child a glass and some raisins to repeat the experiment. The children can also taste the seltzer and raisins if they like.

More to do

Math: Provide the class with different types of seedless raisins, such as golden and brown. Ask them to taste each and graph their taste preference results.

Storytelling: Try using "If I Were a Raisin" as a class story title. Each child could contribute one silly sentence.

Related books

Eating the Alphabet: Fruits and Vegetables From A to Z by Lois Ehlert
The Very Hungry Caterpillar by Eric Carle

Karen Megay-Nespoli, Massapequa Park, NY

4+

Fun With Fruit

Science skills

Children use language and visual skills, make comparisons and practice fine motor skills.

Materials

Book about fruits or vegetables
Magazines
Glue or paste
Crayons or markers and paper
Scissors
Poster board

What to do

1. Read your class a book about fruits or vegetables.
2. Ask the children to draw or cut out magazine pictures of favorite fruits or vegetables.
3. Paste these pictures on poster board to make a picture graph of the children's favorite fruits or vegetables. Label each food with its name.
4. Discuss the results of the graph, such as which fruit or vegetable was chosen by the most children. Tally the amounts next to the pictures.
5. Ask the children to bring in their favorite fruits or vegetables to make a salad to share with class.

More to do

More science: Learn about which fruits and vegetables grow on trees and which grow in the ground. Learn about the stages of growing these foods.

Related recording

"I Like to Eat Apples and Bananas" by Raffi

■ *Deborah Hannes Litfin, Forest Hills, NY*

4+

Is It Still Corn?

Science skills

Children observe as corn changes in form and appearance.

Materials

Popcorn
Indian corn
Wooden bowls
Corn on the cob
Dried feed corn
Clean, dry rocks

What to do

1. Display the different forms of corn. Let the children observe, touch and speculate on which type of corn kernel will become which type of familiar food.
2. Allow the children to crush the dried Indian corn kernels in wooden bowls using familiar rocks. Point out that the finished product is cornmeal. Put the cornmeal into an airtight container and save it for baking cornbread at a later time.
3. Try popping popcorn with the children and explain why the popcorn pops. Each kernel contains a drop of water and when that gets hot enough, it explodes.

Teresa J. Nos, Baltimore, MD

Solar Snacks

4+

Science skills

Children make observations and use fine motor skills.

Materials

Fruit or vegetables suitable for drying: grapes, cranberries, bell peppers, mushrooms, apricots, apples, pears, plums, carrots
String
Clothes hangers
Safe plastic yarn needles
Clean nylon stockings, optional

What to do

1. Ask the children to bring one fruit or vegetable from home. Wash them.
2. Help the children string the fruit and vegetables onto string with the yarn needles (you may place larger fruit such as apples, pears, plums, etc., in a clean nylon stocking).
3. Attach strings and nylons to wire coat hangers and hang them in a clean dry area that receives a lot of sun. Allow them to dry undisturbed.
4. Small fruits and vegetables dry faster. Apples and other large fruits may take longer.
5. Taste your dried fruits and compare the difference between fresh and dried flavors and textures.

More to do

Math: You can display charts in your drying area. Children can mark off the days it takes for their food choice to dry and then visually compare bar graphs of how many days it takes for different foods to dry.

More science: Large groups can discuss wholesome foods and how air and sun can preserve foods through the dehydration process.

Dani Rosensteel, Payson, AZ

4+

Which Seed Is Which?

Science skills

Children are encouraged to ask questions about nature based on their observations.

Materials

Two trays, one tray with various fruits, nuts and vegetables and the other with corresponding seeds, cleaned and dried

Note: some of the selections could be: orange, apple, watermelon, walnuts, papaya, avocado, peach, apricot, mango, pumpkin, squash

What to do

1. Discuss the names of the various fruits and vegetables and nuts with the children.
2. Place the trays of food and seeds on a table and allow the children to observe and touch.
3. Encourage them to guess which seeds belong to which foods.
4. Cut up fruits and vegetables to show children the corresponding seeds.
5. Taste the foods.

More to do

More science: Plant and root the seeds to grow new plants.

Diann Spalding, Santa Rosa, CA

4+

Which Seeds Belong to Which Food?

Science skills

Children make observations and predictions and check their hypotheses.

Materials

Fruits in season and their seeds
Glue
Chart paper
Poster board
Tray
Marker

What to do

1. Glue seeds onto a poster board.

2. Display a tray of the fruits on a table and let the children handle the fruits and see if they can guess which fruits belong to which seeds.
3. After everyone has guessed and you have written down all guesses on chart paper, cut open the fruits and find the seeds to match.

More to do

Math: Count how many seeds are in each fruit.
Snack: Have a fruit-tasting party.

Related book

Eating the Alphabet: Fruits and Vegetables From A to Z by Lois Ehlert

Holly Dzierzanowski, Austin, TX

Wiggle Worm Pie

4+

Science skills

Children use fine motor and observation skills.

Materials

One foil cupcake cup per child
One small box of chocolate pudding for every eight children
A large resealable plastic bag
Mixer
Plastic spoons
Three chocolate cookies per child
2 cups (500 ml) milk per box of pudding
One gummy worm per child
Mixing bowl
Serving spoon

What to do

1. Place the cookies in the plastic bag and let the children crush them into crumbs.
2. Prepare the chocolate pudding according to package directions.
3. Each child puts a gummy worm in his foil cupcake cup, fills it with pudding and sprinkles cookie crumbs on top.
4. Use the recipe for measuring practice, too.

Related books

And So They Build by Bert Kitchen
Who Lives Here? by Rozanne Williams

Robin Works Davis, Keller, TX

5+

Syrian Bread

Science skills

Children make observations, predict outcomes and engage in social development as well as fine and large motor skills.

Materials

¾ teaspoon (3.5 ml) yeast
⅛ cup (30 ml) vegetable oil
2 cups (500 ml) flour, plus extra flour for kneading and rolling dough
2 cooling racks
Mixing bowl
¾ cup (175 ml) warm water
⅔ teaspoon (3 ml) salt
Electric frying pan
Spatula
Measuring cups and spoons
Wooden spoon
Recipe printed on large easel paper and placed on a wall for reference

What to do

1. Plan this activity for a small group.
2. Gather all bread ingredients and utensils and place on the table before you invite the children to the activity. Ask the children to wash their hands.
3. Introduce the activity by talking about the recipe, ingredients, utensils and new vocabulary words.
4. Allow the children to measure the ingredients into the bowl, using the directions on the recipe card:
   Measure the yeast into the bowl.
   Add warm water and mix until yeast is dissolved. (Before they add the water, ask children to predict what will happen to the yeast.)
   Add the oil. Allow the children to observe the separation of the oil and water mixture and describe what they see. Stir.
   Add salt and stir, then add flour and stir.
5. Turn the dough onto a floured surface, and allow the children to knead the dough until it is smooth.
6. Separate the dough into five balls (the size of large eggs). Cover the balls and let them rise in a warm place for 20 minutes. Ask the children to predict what will happen to the dough.
7. While the dough is rising, the children can help wash the cooking utensils and clean the table area, getting it ready for the next steps. The teacher can also read the story, *Sitti's Secret* by Naomi S. Nye.
8. Back at the table, flour the table space in front of each child and give each a ball of dough. Remind the children that this is not playdough, and it should not be played with at this point.
9. Preheat a dry electric frying pan to 450°F (230°C) in a safe, well-supervised area.
10. Let the children roll out the dough to about ⅛" (3 mm) thickness to form a circle about 7" (17.5 cm).

11. The teacher places one dough round at a time into the preheated skillet, cooks it on one side for approximately 30 seconds, then flips it and cooks for another 30 seconds on the other side. If dough is thick, increase the cooking time.
12. Remove the bread from the skillet and place it on cooling rack. Repeat the process for the other dough balls.
13. Allow the children to eat the bread and ask them to compare the Syrian bread to the bread they eat at home. Talk about the smell, taste and texture of the bread.

More to do

Language: Let the children "write" their own recipes. Provide pencils, paper and a sample recipe book. Include magazines with food pictures that can be cut out and added to their recipes.

More science: Place a drop of dissolved yeast on a dish. Use a magnifying glass to look at it. • Provide a variety of breads from different cultures. Let the children compare size, shape, color and texture of the breads. Break off a small piece of each, cover them and allow them to become moldy. Ask the children to predict which bread will mold first. Make a graph to chart their votes. Develop another chart to graph actual results. Compare charts. Talk about the fact that certain ingredients may hinder molding.

Related books

Bread, Bread, Bread by Ann Morris
Sitti's Secrets by Naomi S. Nye

■ Cheryl Collins, Hughson, CA

Let's Go Shopping Game

5+

Science skills

This is a matching game in which children learn categorization and practice fine motor skills.

Materials

4" x 6" (10 cm x 15 cm) file cards
Pictures of foods, four of each
Laminating machine or contact paper, optional
3" x 5" (7.5 cm x 12.5 cm) file cards
Glue and scissors
Markers

What to do

To prepare the game:

1. Use the 4" x 6" cards to make four to six shopping lists and print shopping lists on each card.
2. On the 3" x 5" cards glue a picture of each food on the shopping list. This will be your draw pile of cards.

3. Laminate the cards if you wish.

To play the game:
1. Give each child a shopping list card.
2. Place the pictures of the food face down in a pile.
3. Have one child draw a card and look at his shopping list.
4. If the food is on the list he gets to keep it. If not, he places it back in the pile.
5. When a child finds all the foods on his list, he is finished shopping.

Janice Bodenstedt, Jackson, MI

A Tisket, a Tasket, What Is in My Basket?

3+

Science skills
Children learn to differentiate leaf shapes and numbers.

Materials

Empty laundry detergent box, cleaned and aired out
Clear tape
Classroom objects
Colored construction paper
Black marker

What to do

1. Beforehand, tape the construction paper over the box with clear tape.
2. With the marker, draw large and small question marks on the box.
3. Fill the box with things that pertain to that week's topic. For example, in fall cut various shapes of differently colored leaves from construction paper. Write numbers on the backs of the construction paper leaves from 1 to 10 in black marker, and laminate the leaves.
4. In class, ask the children to sit in a circle. The teacher can skip around the children, singing "A Tisket, a Tasket" and instead of singing "a brown and yellow basket," substitute the color of your basket.
5. Encourage each child to come up, reach into the box and pull out a colored and numbered leaf. They can tell you the color and the number on the leaf.
6. Change the contents of the box to go along with your current theme or the season.

Gloria C. Jones, California, MD

Whose Parent?

3+

Science skills
In this game, children use careful observation to match each child to his parent. Children in a class usually know each other's parents by sight, so they can all participate in finding the correct photo matches.

Materials

Photos of parents and children
Construction paper cut to give photos a ¼" (6 mm) border all the way around

Scissors and glue
Laminating machine or clear contact paper, optional

What to do

1. Take a photo of each child in your class, as well as one photo of each child's mother or father.
2. Glue photos onto construction paper and laminate, if possible.
3. The children match photos of children to their parents.

Jodi Sykes, Lake Worth, FL

3+

Color Musical Chairs

Science skills
Children practice auditory skills and vocabulary development.

Materials

Colored paper squares
Chairs
Tape
Music

What to do

1. Tape the different colored squares on the seats of the chairs, using a different color for each chair.
2. Play music as the children walk around the chairs. When the music stops, the children have to say what color paper is on their chair.

Related books

The Crayon Counting Book by Pam M. Ryan and Jerry Pallotta
Red, Blue, Yellow Shoe by Tana Hoban

Sandra Hutchins Lucas, Cox's Creek, KY

3+

Ice Cube Mystery Game

Science skills
Children observe the qualities of water as it changes into ice.

Materials

Ice cube trays and water
Variety of items such as paper clips, vegetables, cotton balls, noodles

What to do

1. Let the children fill the trays with water.
2. Place a different item in each cubicle.
3. Place the trays in the freezer until they are frozen.
4. Talk about the changes the children think will take place. What will happen to the water? Will the items look different after the cubes melt?
5. Place the cubes onto a tray and see if the children can guess what item is in each cube.
6. Observe the changes as the cubes melt.

More to do

Art: Make colored ice cubes with food coloring and let the children paint with them on sturdy paper.

Cindy Winther, Oxford, MI

Follow My Directions

3+

Science skills

Children practice large motor skills as well as social development

Materials

Large unbreakable objects, such as plastic cups, Styrofoam cups, empty cans, cartons, boxes
Blindfold

What to do

1. Set up an obstacle course with the objects. Ask one child to put on the blindfold. Note: some children may be uncomfortable wearing a blindfold.
2. The other children give directions for the blindfolded child to follow to avoid colliding with the obstacles.
3. Keep count of the number of obstacles the child knocks over. Change the course after each player.
4. Chart the results. Encourage the children to try the obstacle course again. Count how many obstacles they knock over this time. Compare the results of their first and second turns.

Monica Hay-Cook, Tucson, AZ

Life Cycle Bingo

3+

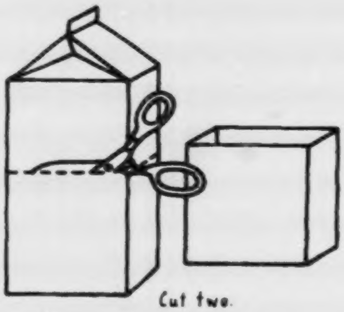
Science skills

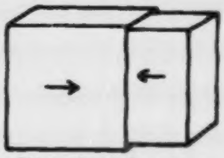
Children make observations and are encouraged to ask questions about nature.

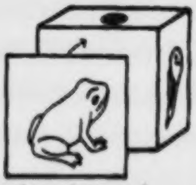
Materials
2 empty 1-quart (1 L) milk cartons
Glue
Paper and marker or drawing of the life cycle of a frog
Chips or markers of some sort
Contact paper

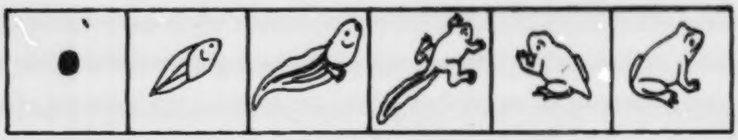
What to do

1. Cut the tops off of both milk cartons. The cut should be made as high up as the bottom is long so that all sides are the same length.
2. Fit the two bottoms together to form a cube. One open end should slide into the other.
3. Draw six stages of a frog's life. Each picture should be the same size as one side of your cube and should be in a row on one sheet of paper. Repeat this until you have five sets of pictures, illustrating egg, tadpole, tadpole with two legs, tadpole with four legs, tadpole with no tail, frog.
4. Cut one set apart and glue one picture to each side of your cube. You now have a die for your game. Cover your die and the four remaining strips of pictures with contact paper for durability.
5. Each child places a life cycle strip in front of her. Going around the table taking turns, the children roll the die and place a marker on the corresponding picture on their life cycle strip. The first child to cover all the pictures on her strip wins.


Cut two.


Fit bottoms together.


Glue pictures to sides of cube.


Bingo Strip

More to do

Math: You can write numbers by the pictures on the life cycle strip and use a real die. The children must then count the dots on the die and match them to the correct number. This game would be only for those children who have a good grasp of counting.

Ann Gudowski, Johnstown, PA

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Moon Rock Hopscotch

3+

Science skills
Children practice large motor skills.

Materials
Chalk
Large sponge, painted gray for the moon rock

What to do

1. Draw a hopscotch game board on the pavement.
2. When it is time for each child to take a turn, give her the moon rock to throw. Use circles, crescents and semi-circles in the game board to represent the different phases of the moon.
3. When the moon rock lands on a particular shape, ask the child to identify the shape, as well as the numeral on it.

Related books
Goodnight, Moon by Margaret Wise Brown
The Moon Jumpers by Janice Udry
Papa, Please Get the Moon for Me by Eric Carle

Joyce Montag, Slippery Rock, PA

Name the Animal

3+

Science skills
A child must observe and draw conclusions in this game.

Materials
Scissors
Stickers and paints
Paper
Shoe box
Animal figures
Markers, crayons

What to do

1. Cut a hole in the top of the shoe box.
2. Ask the children to decorate the box with the stickers and paint.
3. Place all the figures in the box and ask each child to close her eyes and pick something out of the box.

4. Then describe to the child what the animal looks like, what sound it makes and where it lives. The child may guess which animal it is.
5. After each child has had a turn, ask her to draw a picture of the animal and where she thinks it lives.

Eric Painter, Georgetown, MA

3+

Ten in a Plane

Science skills
Children practice large motor skills.

Materials
Chair or crate to stand on
Three hula hoops
Scarves

What to do
1. Place the chair or crate in the center of the room.
2. Position each of the three hoops approximately 1′ (30 cm) from the chair, place one hoop in front of the chair and one on each side of the chair.
3. Choose one child to be the pilot and ten children to jump from the chair or crate with parachutes. The rest will sing the song.
4. Have the children with "parachutes" form a line and jump in turn from the chair into one of the hoops. The child can use a scarf to simulate a parachute. Give each child a chance to jump.
5. Sing the following song to the tune of "There Were Ten in the Bed."

There were ten in a plane and the pilot said,
"Bail out, bail out!"
They checked their chutes and one jumped out.

Now there were nine in the plane and the pilot said . . . (Repeat until the last child jumps)

Now there were none in the plane and the pilot said,
"Good job, well done!"
They gathered their chutes and all walked home.
"Good bye, Good bye!"

Joyce Montag, Slippery Rock, PA

Games

Walk-and-Balance

4+

Science skills

The children observe space and time relationships and cause and effect, as well as practice large motor skills.

Materials

Beanbag
2 paper cups
Cookie sheet
Tennis ball

What to do

1. Ask each child to perform the following balancing acts: walking with the beanbag balanced on her head; walking across the room holding a cup of water in each hand; and balancing the tennis ball on the cookie sheet.
2. After some practice, divide into teams and have relay races using the same balancing skills.

Monica Hay-Cook, Tucson, AZ

Occupation Musical Chairs

4+

Science skills

Children practice vocabulary and language development, as well as large motor skills.

Materials

Chairs or rug square for each child
Occupation description cards, or simple pictures for younger children
Some form of music- or rhythm-making instrument

What to do

1. Make 10 to12 cards that briefly describe jobs people do in the community.
2. Gather children and chairs.
3. Explain that in this game of musical chairs, everyone will have a chair at the end, but on some chairs there will be a card that describes a job! If there's a card on a child's chair, you'll read about that job and the child can see if she can name the worker that does that job. For younger children you may only want to distribute a few cards, or you may wish to draw a simple picture instead of providing a written description.

4. Ask the children to march around the chairs in the same direction when you start the music, and then find a chair when the music stops.
5. Begin the music and circle the chairs with the children, placing cards on several chairs, then stop the music.
6. Help the children find chairs, then randomly read cards from those chairs that have them.
7. Encourage all the children to listen to other children's answers because that same card may be on their chair the next round!
8. Begin music and place cards out again as the children circle the chairs.

More to do

More games: Play an occupation guessing game like "Charades" in which the children act out the description on these cards and the other children try to name the worker. ▪ Play this musical chair game with any theme. You can place shapes, letters, numbers or animal pictures on the chairs.

Related book

What's It Like to Be a Police Officer by Michael Pellowski

Shirley R. Salach, Northwood, NH

4+

Feed Me

Science skills

In this game, the children practice memory and large motor skills.

Materials

Number strip (separate sheets taped together or a strip of paper, measuring about 1' x 10' or 30 cm x 3 m), marked off with numbers 1-10

9 blank index cards

One index card with a picture of a complete meal on it

What to do

1. Ask the children to name some things we can do to help keep our bodies healthy (e.g., eat healthy foods, sleep, exercise, wash hands before eating, clean our bodies, brush teeth, etc.).
2. Review the food groups briefly with the children. Can they give any examples of foods in these groups? Nutritionists help us to know how much of which foods we need to eat to stay as healthy as possible.
3. Show the children the blank cards and the one card with the meal picture on it and describe the game you will play. You may want to be the "hungry" person first to demonstrate.
4. Spread the sheet out with the index cards face down under each number. Mix up the cards so that nobody knows under which number the meal is hiding. The "hungry child" stands on "start" while the other children take turns telling her how to move (e.g., three steps forward,

one step backward). At each stop the "hungry child" looks at the index card to see if it is the one with the meal under it.

5. Other children continue to give commands to the "hungry child" until she has found the meal.
6. Each child takes a turn being the "hungry child."
7. Depending on the children's age level and how difficult it is for them to remember which numbers have already been checked, you can return the index cards to their face down position to encourage them to remember which ones were blank or collect them in your hand to eliminate repetition of blank cards.
8. Review by asking the children to name a few of the foods on the meal card, and which food group the foods belong to.

More to do

More science: Instead of including an entire healthy meal on the card, include foods from only one food group on several cards and challenge children to find the food for a specific group. • Allow the "hungry child" to move according to the directions of friends, but then name the food group represented at every stop she makes. Encourage the children to make their own meal cards to play the game or take home.

Snack: Provide foods that were represented on the card.

Related book and recording

Bread and Jam for Frances by Russell Hoban
"Apples and Bananas" by Raffi

Shirley R. Salach, Northwood, NH

Flipping Flapjacks Game 4+

Science skills

Children practice fine motor skills and their eye-hand coordination.

Materials

Heavy cardboard
Markers, crayons
Markers
Scissors
Clear contact paper
Flapjack turners

What to do

To make the flapjacks

1. Cut 4" (10 cm) diameter circles from heavy cardboard to be the flapjacks. Draw and color a butter pat on one side of the flapjack and leave the other side blank. Cover each flapjack with clear contact paper. Cut 50 flapjacks—more for added fun!
2. Scatter the flapjacks all over the area to be used. Place some butter side up.

3. Divide your class into two teams. One team is the Butter Team, the other is the Plain Team.
4. Give each player a flapjack turner. (You can find these for pennies at thrift stores and yard sales.) The Butter Team wants all the flapjacks butter-side up, and the Plain Team wants all the flapjacks to be plain-side up.
5. Give the signal and everyone starts flipping the flapjacks with their turners. After a few minutes, give the signal to stop. You can then count how many of each are showing, and determine which team was working faster. Start the game again and see if the slower team can catch up.

More to do

Snack: Make flapjacks for snack time.

Related books

Cloudy With a Chance of Meatballs by Judi Barrett
Pancakes for Breakfast by Tomie dePaola

Valerie Chellew, Marshfield, WI

4+

Who Is That Tapping on My Web?

Science skills

This game stimulates children's interest in and curiosity about nature.

Materials

Blindfold

What to do

1. During circle time, tell the children that a spider knows there is an insect in her web when she feels the movement of the insect.
2. Ask the children to form a circle and explain that you will select one child to be the spider and one child to be the insect. The spider will be blindfolded in the middle of the circle. After the spider is blindfolded, you will choose a child to be the insect by tapping on the child's head. You will then tell the child who is the insect to tap her feet so the spider will know where she is.
3. The child who is the spider must find the child who is tapping her feet.
4. When the spider catches the child playing the insect, the child playing the insect becomes the spider. This process continues until everyone has had a chance to be spider or insect.

More to do

Art: Provide the children with yarn, glue and paper and encourage them to make their own spider webs.

Linda Andrews, Sonora, CA

Carrot Tops

3+

Science skills
Children ask questions about nature and make observations.

Materials
Shallow dish or saucer
Water
Fresh carrots or even carrots that still have the greens attached

What to do

1. Talk about how the carrots grow from a little seed in such a way that the greens grow above the ground and the carrot grows underground.
2. Break off the greens from the top of the carrot, and slice about ½" (13 mm) from the top of the carrot.
3. Put the slice of carrot into the dish or saucer, flat side down, with enough water to reach half-way up the carrot slice.
4. Put the saucer in a sunny window, and continue replenishing the water.
5. After a few days you will see that the carrot greens are growing again.

More to do
Art: Use the discarded greens as paintbrushes, giving the children a new art medium.
More science: The carrot top activity can be a long-term project. Begin in the spring with carrot seeds, grow the seeds and transplant into a garden. In the summer and fall pull up the children's very own "home grown" veggies! • Try using other vegetables or fruits to see if anything else will grow the same way (it is possible to get a pineapple top to "re-grow"). This past year we grew corn, carrots and pumpkins in our school garden, and the children were really thrilled to be able to eat something they'd grown from seed!
Snack: Eat the carrots raw for snack or at lunch time.

Diane Angus, Kittery Point, ME

Which One Will Grow First?

3+

Science skills
Children make observations and predictions

Materials

One clear plastic tumbler per child
Vegetable or flower seeds, two different packets
  (for example, beans and carrots or sunflower and marigold)
Potting soil
Stickers
Chart paper
Water
Permanent marker

What to do

1. Discuss what seeds need in order to grow—sun, soil and water—and then show the children the two different types of seeds.
2. Write each child's name on a plastic tumbler.
3. Fill each tumbler three-quarters full with soil.
4. Ask the children to poke a hole in the soil and plant their two seeds.
5. Help each child water the seeds, and place the cups in a sunny location in the room.
6. Encourage the children to think about which of their seeds will sprout first. Glue the seed packets along the top of a large piece of chart paper. As each child states his prediction, let him put a sticker underneath the seed packet representing the prediction.
7. Discuss with the children the fact that our predictions don't always turn out to be correct. Check the seeds' progress daily and keep them moist.

More to do

More science: The children may prepare mini-science sketchbooks by stapling together four to five pieces of paper and leaving them in a basket, along with pencils and crayons. They can chart the progress of their seeds. Be prepared to take dictation and record the findings in their books.

Jodi Sykes, Lake Worth, FL

3+

How Seeds Grow

Science skills

Children make observations and are encouraged to ask questions about nature.

Materials

Many types of seeds: collect from fruit and
  outdoor plants and trees
Sponges
Grass seeds
Paper towels
Clear plastic cups
Plastic wrap
Tagboard
Plastic container
Soil
Bean seeds

What to do

1. Examine and sort the various seeds you collected. Discuss their size, texture, color and where they were found.
2. Children can help make the seed chart. Use plastic wrap to enclose the seeds, label each on the chart and hang it in the classroom.
3. Wet a sponge and ask the children to drop grass seeds onto it. Now take the container and fill it with soil. Sprinkle on the grass seeds, add water and place the container in plastic wrap in the sun. Which grass grows first? Which is the stronger plant? Children, especially young ones, enjoy watching grass on the sponge. This can be done over and over again. Just pull off the grass, wash the sponge, and it is ready for the next batch.
4. Let the children feel the bean seeds. Plant a couple in soil, place in a sunny location and water as needed. Wet a paper towel and fold it to fit inside a plastic cup. Drop the seeds between the paper towel and the side of the cup and add some water to the bottom of the cup so that the paper towel can absorb it. Cover the top of the cup with plastic wrap to hold in moisture and put it inside a dark closet until the seeds start to sprout. Now put several seeds in a container and leave them alone. Children and teacher observe the seeds. Which seeds grew first? Which produced the strongest plant? Which didn't grow at all? Older children may chart the seeds' weekly growth.

More to do

Circle time: Children can pretend to be growing seeds. Ask them to curl up while the teacher tells a story about seeds planted in the ground. The sun shines and the rains come. Slowly the seeds start to grow and sprout. Soon they have roots. Then they begin to push through the ground. Soon they are plants. Children can also act out the story. Ask the children what type of seed they are pretending to be.

Snack: Children could make bean salad to eat with lunch or snack by mixing a 16 oz. (500 ml) can each of drained green beans, wax beans and kidney beans with an 8 oz. (250 ml) jar of Italian dressing.

Storytelling: You might tell the story *Jack and the Bean Stalk* during the bean experiment.

Irene A. Tegze, Mahwah, NJ

Garden in a Fish Bowl

3+

Science skills

This delightful long-term activity teaches observation skills and encourages questions about nature.

Materials

Fish bowl
Garden pea seeds
Water
Cotton balls
Clear plastic wrap
Chart paper and marker

What to do

1. Arrange a layer of cotton balls in the bowl.
2. Wet the cotton thoroughly; all water should be absorbed by the cotton.
3. Sprinkle the seeds over the cotton.
4. Cover the bowl with plastic wrap and place it near a window.
5. Watch each day. The seeds will sprout and eventually the vines will completely fill the bowl, creating a miniature jungle. When the peas sprout, you may wish to open the plastic covering and remove a seed to examine it.

More to do

Storytelling: Read or tell the story of *Jack and the Beanstalk.*

Mary Jo Shannon, Roanoke, VA

3+

Growing a Garden

Science skills

As seeds grow, children learn observation skills and ask questions about nature.

Materials

Floor mat or plastic
Several 40 lb. (20 kg) bags of potting soil
Trowel, shovel, rake
Popsicle sticks
Tape
Camera
Wading pool
Corn and beans
Water cans
Index cards
Crayons
Ruler or tape measure

What to do

1. Place the floor mat underneath the wading pool.
2. Let the children place one to two inches (2.5 cm to 5 cm) of potting soil in the pool. Soil play can be fun before adding seeds!
3. Add the corn and beans to the soil, making sure they are covered, and water them. The seeds in the pool do not have to be outdoors to grow. The seeds should sprout within 2 to 8 days if the soil is kept moist but not saturated.
5. Make plant cards for the planted seeds by drawing on the index cards and placing them beside the seeds.
6. Watch the plants grow. As the seeds sprout, talk about the roots, stems, leaves, etc. that make up a plant, and how the seed opens to allow the plant to make a stalk.
7. Measure the plant's growth periodically.
8. Take photos of the planting process and the sprouting seeds to chart the growth.
9. If you have an outside garden, you can grow the plants from early spring through early fall.

Gardening

10. Add a scarecrow to the garden, if desired, using paper or small clothing stuffed with straw. Stand the scarecrow in the garden with a yardstick attached to its back.

More to do

Language: Make a storybook of the plant growth process. Allow the children to draw pictures of the step-by-step process each day. Notice how the drawings reflect what the children have experienced. This can be a cooperative storybook or each child may make one. Create titles and make sure to include any and all explanations of the pictures drawn.

More science: Plant seeds both inside and outside to compare the growth of the same items in different environments. Notice and discuss similarities and differences

Sand and water table: Have mud play or soil play at the water table. Add shovels, gardening tools, gardening gloves, seeds (grass or birdseed).

Related books

The Carrot Seed by Ruth Krauss
Growing Vegetable Soup by Lois Ehlert
The Tiny Seed by Eric Carle

Tina R. Woehler, Flower Mound, TX

Planting

3+

Science skills

Children have an opportunity for observation and fine motor play.

Materials

- Rich, black soil
- Tub
- Water
- Small trowels and hand rakes
- Grass seed

What to do

1. For a new and different sensory experience, fill your water play tub with rich, black soil. Let the children explore the soil with their hands first; later you can add small trowels and rakes.
2. Later in the week, let the children add small amounts of water to half the tub. Talk about the differences between the feel and look of the wet and dry soil.
3. For a grand finale, let the children add grass seed to the tub and place it in front of a window. Encourage the children to water their grass daily and watch closely!

More to do

Math: Keep a growth chart of the grass growing in the water tub. Measure the growth each day and mark the chart.

More science: Let each child fill a plastic cup with soil and plant grass seed. Use round stickers to let each child create a face for his cup. As the seeds grow, the children can give their new "friend" a haircut.

Cindy Winther, Oxford, MI

3+

Seed Match-Up

Science skills
Children make observations and classify seeds

Materials

A variety of seed packages	Index cards
Glue	

What to do

1. Remove the seeds from one of the packages and glue a few seeds onto an index card.
2. Glue the front cover of the seed package to another index card.
3. Repeat for each type of seed and seed package to make matching pairs. Allow the children to examine the seeds closely, and show the children the pictures on the packets. Talk about how each seed grows into the plant pictured on the packet.
4. After the cards dry, mix up the pairs and play matching games.

Laura Claire-Gremett, San Jose, CA

3+

Spring

Science skills
Children observe and make predictions and inferences.

Materials

Resealable plastic bags	Grass seed
Soil	Water

What to do

1. Fill two resealable plastic bags with a generous amount of soil.
2. Add a handful of grass seed and some water so the soil is moist but not soaked.

3. Close the bags and shake them so the soil and seeds mix.
4. Hang one bag in a window with southern exposure.
5. Hang the other bag in a window with northern exposure.
6. Both airtight bags will produce water droplets, and the continued "rain" will keep the soil wet.
7. Watch the bags to see which bag sprouts the seeds first. Encourage the children to try to explain why the seeds emerge first in the bag with southern exposure.

Ingelore Mix, Massapequa, NY

Sprout Garden

3+

Science skills

Children observe seeds and sprouts and are encouraged to ask questions about nature.

Materials

Ice cube tray(s)
Water
Assortment of beans
Permanent marker

What to do

1. Encourage families to send in a bean.
2. Mark one child's name per cell on the ice tray on the inside of the cell so the name is visible.
3. Let each child place his bean in the cell.
4. When the tray is full, move it to a place in the classroom that receives light.
5. Ask the children to fill their bean cells with water.
6. Observe the growth and perhaps have a race to see which beans sprout fastest.
7. Keep the cells full of water 24 hours a day so they don't dry up. You may have to fill the cells every day as the beans grow.
8. Plant the sprouts in a garden.

Dani Rosensteel, Payson, AZ

Little Gardeners

3+

Science skills

Children observe growing plants over many months and are encouraged to ask questions about nature.

Gardening

Materials

A small clear plastic cup for each child
Potting soil
Flower or vegetable seeds
Index cards
Poster board and markers
Magnifying glasses
Water, air and sunshine

What to do

1. Show the children how to fill their plastic cups about half full with potting soil.
2. Ask the children each to choose two or three seeds to plant in their cups. Give each child a magnifying glass so they may examine their seeds closely. Encourage them to notice details about the seeds and how they are the same or different. Let them draw pictures of their seeds on an index card. Keep the cards for later use. Post one child's representational drawing in the science area near your the cups. Print a large number 1 on another index card and post it next to the drawing.
3. Plant the seeds in the cups, and water them just enough to thoroughly wet the soil. Remind the children not to use too much water or their seeds will not sprout. Ask the children to draw a picture of the seeds in the cup. Keep these pictures for later use and post one under the seed picture in your science area, and put a large number 2 next to it.
4. Discuss how to care for the seeds. What do they need in order to sprout and grow properly? Make a poster about caring for your plants.
5. Care for the seeds until they sprout. Examine the new sprouts closely with a magnifying glass. Be sure to point out the developing root system, which may be visible through the clear plastic. Ask the children what they think has happened to the seed. Discuss the changes the seeds went through. If you have a Peabody Picture set, show the set that depicts the development of a seed. Explain how the water, sun and air combined to give the seed the right conditions to sprout into a plant. Encourage the children to draw a picture of their newly sprouted seedlings and put this with their other pictures. Post one drawing in the science area under the previous picture and a large number 3 next to it.
6. The children can now begin to use their index cards to order the stages of a plant's life cycle. Have them take out their cards and mix them up. Discuss how the plant looked when you first got it as a seed, and let them find their picture of the seed. Next discuss how you put the seed in the potting soil and gave it water, air and sunshine. The children can place their picture of the seed in the cup next to the first picture. Discuss what their plant looked like after it had sprouted, and let them place the drawing of the sprouted plant next to the second picture.
7. Care for the plants until they mature. When they have fully matured, the children can examine them closely again, using the magnifying glass if they wish. Encourage them to notice and describe how the plant has changed. Talk about ways in which the plant looks the same (it is still green, it still has leaves) and how it is different (it is taller, it has more leaves, it might have a flower or be producing some type of vegetable). The children can draw a picture of their mature plants. Add it to the previous drawings. Post one drawing in the science area under the previous ones with a large number 4 next to it.
8. Ask the children to use their cards again to correctly order the stages of a plant's development. Help them remember the various stages by asking open-ended questions such as, "What did your plant look like at first?" "What did you give the seed to help it sprout?" and "How did the seed change after you planted it?" Review the pictures posted in the science area and discuss each stage of the plant's development again.

9. The children may take home their sprouted plants, or you may want to create a class garden (see More to do, below).

More to do

More science: You can create a garden in the playground area either by digging up a small portion of ground or by using containers. Help the children carefully transplant their plants from the cups to the garden. They can make markers with their names on them to help them identify their own plants (remember to laminate the markers since they will be out in the weather). You could add a Garden Helper position to your classroom Helper Chart and assign one child per week to water the garden. ▪ Discuss how the fruits and vegetables grown in gardens all over the world help us to live and be healthy and strong. Are there other creatures that benefit from a garden? Find out! Dig into your garden, once it is well established, and collect the dirt in a small container. Use your microscope or magnifiers to look for living things. What did you find there? Bugs and slugs and crawly things? Make a list of the bugs you discover and then return them to the garden. ▪ Keep a weekly journal about the development of the children's plants. Each week the children can draw a picture of their plants and dictate a sentence describing the changes noted that week. Create a cover, bind the pictures together into a book and you have a Little Gardener's Journal!

Original song

Sing to the tune of "Mary Had a Little Lamb."

Johnny had a little seed, little seed, little seed.
Johnny had a little seed, he put it in some soil.
He gave the seed sun, air and water; sun, air and water; sun, air and water.
He gave the seed sun, air and water,
And his seed did sprout.
Johnny had a little seed, little seed, little seed.
Johnny had a little seed but now he has a flower (or insert the name of the child's plant here).

Related books

City Green by DyAnne DiSalvo-Ryan
Dancers in the Garden by Joanne Ryder
From Seed to Plant by Gail Gibbons
A Handful of Seeds by Monica Hughes
How Plants Grow by Ron Wilson
Nana's Garden by Sophy Williams
Over Under in the Garden: A Botanical Alphabet by Pat Schories
The Plant Cycle by Nina Morgan
Seeds by George Shannon
The Tiny Seed by Eric Carle

■ *Virginia Jean Herrod, Columbia, SC*

3+

Plant a Bulb

Science skills
The children observe as bulbs grow and flower.

Materials

Flower pots, clay or plastic, one for each child
Small jars of acrylic paint
Small paintbrushes (watercolor brushes are fine)
Tulip bulbs, one for each child, plus two extras
Potting soil
Acrylic sealant, if pots are clay, available at art or paint stores
Permanent marker
Trowels or large spoons
Gardening gloves, optional

What to do

1. If you are using clay flowerpots, spray them with the sealant the day before doing this project.
2. In small groups, let the children paint their flowerpots with the acrylic paint. Use the permanent markers to write their names on the pots. Acrylic paint is water soluble so the brushes can be cleaned with water. Allow the pots to dry overnight.
3. Show the children pictures of flowering bulbs or read them a related book.
4. Give each child a bulb. Show the children where the roots come out of the bulb and out of which end the flower will grow.
5. In small groups, let each child plant his bulb in his flowerpot, using the potting soil and trowels or spoons.
6. Plant the two extra bulbs in separate pots.
7. Let the children water their bulbs and put them in a sunny place in your classroom.
8. Ask the children what the bulbs need to grow. Tell them you are going to do an experiment with one of the bulbs by putting it in a closet to see what will happen. Encourage the children to hypothesize what will happen to the bulb in the closet.
9. Mark on your class calendar the day that you planted the bulbs and each day count how many days it has been since.
10. Ask the children to water their bulbs regularly, once a week is probably fine.
11. When the bulbs begin to sprout, note which bulbs are sprouting. Are they all? Why or why not?
12. Compare the children's bulbs with the bulb in the closet.
13. Once they begin to sprout, graph each day how far the bulbs grow.
14. Just before the bulbs flower, send them home with the children.

Barbara Saul, Eureka, CA

Gardening

My Garden Pocket

4+

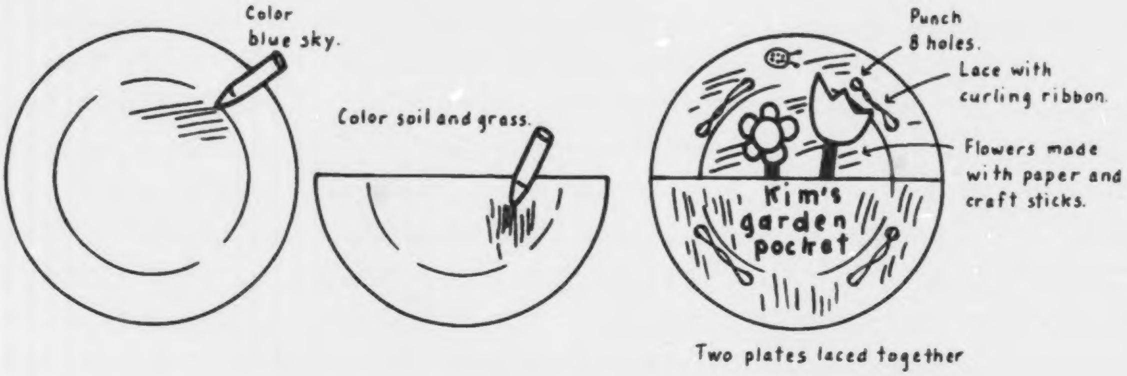
Science skills
Children practice observation and fine motor skills.

Materials

- Books about gardening
- Paper plates
- Assorted colors of textured papers
- Hole punch
- Magazine clippings of flowers, insects, gardening tools and people gardening
- Variety of gardening tools
- Scissors
- Glue
- Paper curling ribbon, one yard per child
- Unwrapped crayons
- Craft sticks, ½" (13 mm) wide, 3 per child

What to do

1. Invite children to look at gardening books and to handle a variety of gardening tools. The tools could include a shovel, rake and digging fork.
2. Discuss the process of planting seeds and welcome children's comments about what they may already know about gardening.
3. To make the paper garden pockets, give each child one whole paper plate and one paper plate that has been cut in half.
4. Children may select several unwrapped crayons. Encourage them to illustrate the sky on the whole paper plate and to rub shades of soil and grass on their half paper plates.
5. Children place the two plates together and, using a hole punch, punch eight holes around the paper plates (or teachers may want to have holes already pre-punched).
6. Use the curling ribbon and lace through the two paper plates. Tie the two ribbons together.
7. Children may design their own paper flowers from a variety of textured papers or use the illustrated clippings from the magazines. The flowers and/or clippings can be affixed to craft


Color blue sky.
Color soil and grass.
Punch 8 holes.
Lace with curling ribbon.
Flowers made with paper and craft sticks.
Kim's garden pocket
Two plates laced together

BEST COPY AVAILABLE

sticks using tape or glue. The children may color the craft sticks to represent the stems of plants. Children may want to embellish their stems with textured leaves (rubbings from leaves) and maybe add a friendly ladybug.

8. Organize and plant paper flowers between the two paper plates. Create garden stories, and please touch the flowers!

More to do

Math: Make a graphing chart with the following column headings: flowers, bugs, leaves. Count the flowers, bugs and leaves in each garden pocket and mark the appropriate column with the correct number of each item. How many flowers, bugs, leaves can you count?

Storytelling: Invite children to create a story garland. Document children's stories onto cut-out flower shapes and let the children use tape, glue, string or yarn to connect the flowers together. Display the garland across the classroom window.

Related books and recording

Creepy Crawlies by Cathy Kilpatrick
Planting a Rainbow by Lois Ehlert.
Linnea's Windowsill Garden by Christina Bjork
"Rain" words and music by Miss Jackie

■ *Jill Loveless, Lee's Summit, MO*

4+

Butterfly Garden

Science skills

In this delightful outdoor activity, children use their creativity and practice social development.

Materials

Soil
Plastic cups
Sunny windowsill
Several of the following seeds: bee balm, foxglove, heliotrope, lilac, lupine, morning glory, nasturtium, pansy, Queen Anne's Lace, snapdragon, sunflower, sweet William, viburnum, yarrow

What to do

1. Discuss butterflies and describe the types of flowers that attract them. Tell the children that butterflies need a natural, chemical-free environment with a little shelter. A commercial butterfly house or a trellis with vines, such as morning glory, may be a shelter for a butterfly.
2. Decide on a place for your butterfly garden. It can be an established garden site, a window box or hanging planters. Let the children help select the place and design the garden, choosing plants in different colors, scents and heights. Include a bench or other seating if possible

and bricks or other absorbent rocks. The rock or brick can be doused with sugar water occasionally to give the butterflies an extra treat.

3. Plant the seeds in plastic cups. Keep them on a sunny windowsill and keep the soil moist. When the seedlings are about 2" (5 cm) tall, transplant them to your garden or pots and remember to water them. Now relax, and wait for the butterflies to come!

More to do

Art: Cut up clean plastic milk cartons into butterfly shapes and tape them to dowels. Let the children decorate the butterflies and use them as plant markers.

Math: Measure seedlings or count seeds.

Related books

Butterfly Story by Anca Hariton
Charlie the Caterpillar by Dom DeLuise
My Father's Hands by Joanne Ryder
Planting a Rainbow by Lois Ehlert
The Very Hungry Caterpillar by Eric Carle

Robin Works Davis, Keller TX

Seed Race

4+

Science skills

This activity helps children with observation skills, stimulates interest in nature and allows them to practice number skills.

Materials

Assorted seeds in packets
Paper towels
Chart paper
Peanut butter jars, empty and washed
Water
Colored crayons or pencils

What to do

1. Ask the children to bring in seed packets.
2. Open and compare the many shapes and sizes of the seeds, keeping track of which seed belongs with which packet.
3. Line the jars with paper towels, and wet the towels thoroughly.
4. Push two seeds of each type between the towel and the jar so they can be seen through the glass and stay in contact with the wet paper.
5. Make a chart with a row of 14 blocks for each seed type. Label each row with the name of the seed and a picture of the plant and seed.
6. Color in a block each day until a seed sprouts. When it sprouts, stop coloring blocks in that row. Which seed sprouted first? Last? Read the chart.

More to do

Games: Create seed puzzles by gluing the picture from a seed packet on one end of a 4" x 6" (10 cm x 15 cm) piece of poster board. On the other end glue the seeds. Cut each card in half with a distinct shape pattern to create a set of puzzles. Match up the seeds with their plants.

Snack: Eat a seed snack. Try sunflower seeds, sesame seed and poppy seed crackers. ▪ Bake poppy seed muffins.

Related poem

Say the following poem and perform the actions:

Here is the seed, down in the ground, waiting here to grow (curl up in a ball on the floor)
First comes the rain (reach arms up and wiggle fingers down to floor)
Then comes the sun (reach arms up with hands in a circle)
Then it can grow and grow. (slowly rise from the floor and spread out arms)

■ *Sandra Gratias, Perkasie, PA*

4+

Sprouts and Roots

Science skills

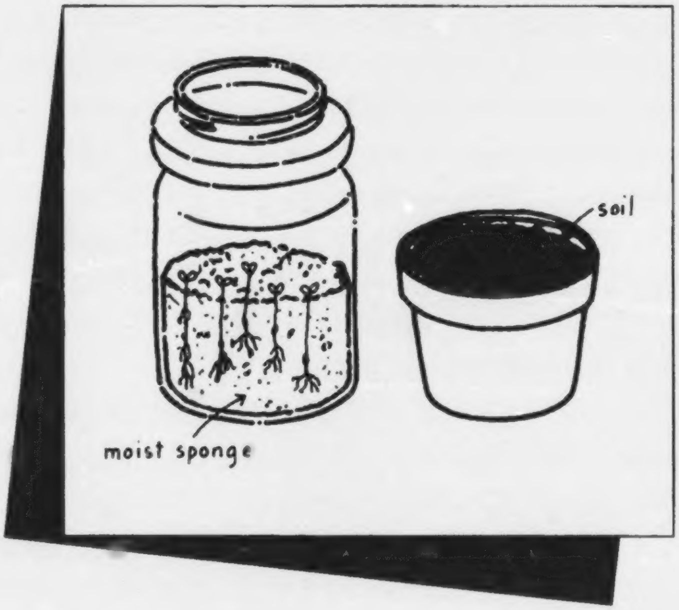
Through observation, children are encouraged to ask questions about nature.

Materials

A variety of seeds
Empty glass jar
Sponge
Cups
Potting soil
Shovels
A sunny window

What to do

1. Dampen the sponge and place it in the bottom of the glass jar.
2. Place the seeds between the glass and the sponge.
3. Plant leftover seeds in cups filled with potting soil, one for each child. Water them and place them in a sunny spot.



4. Children can observe and compare the sprouts in the soil and the roots in the glass jar.
5. Keep both soil and sponge moist.

More to do

Games: What seed is this? Fold a piece of 18" x 24" (45 cm x 60 cm) poster board in half lengthwise. Cut the top half into sections, and glue seeds on top. Glue the corresponding seed packet to the bottom half.

Related books

The Carrot Seed by Ruth Kraus
Pumpkin Pumpkin by Jeanne Titherington

Teresa J. Nos, Baltimore, MD

Fun With Flowers

4+

Science skills
Children are encouraged to make observations and ask questions about nature.

Materials

Fresh flowers
Borax
Shallow box with lid
Glass or plastic vases
Instant oats

What to do

1. Discuss with the children the fact that many people make floral arrangements with fresh flowers. A florist would be a good guest, or make a trip to a flower shop.
2. Ask the children to help you arrange fresh flowers in one of the plastic containers. While you are arranging the flowers, talk about the different shapes and colors. Encourage the children to discuss different aspects of the arrangement they like and why they have chosen to arrange the flowers in a particular way.
3. Questions to spark discussion with the children while they are arranging:
   Are the flowers various shapes? What kinds of shapes do you see? Are the stems of some of the flowers too long or too short? Would you like help cutting some of the stems so they fit better into the vases? What color flowers are you placing together?
4. You can also dry fresh flowers at room temperature and use them for dried arrangements at other times of the year. If the children's age and abilities permit, have them mix together 1 cup (250 ml) borax and 2 cups (500 ml) oatmeal in a bowl. Pour half of the mixture into a shallow box, making a thin layer.
5. Place an assortment of flowers face down on the mixture in the box.
6. Help the children pour the remaining mixture over the flowers and cover with a lid.

7. Open the box in three to four weeks and gently shake the mixture off the flowers. They are ready to use for arrangements.

More to do

Art: Show the children pictures of floral paintings done by famous artists. Talk with them about the colors, flowers and brush stokes. Children may want to try to paint a picture of the flowers they arranged in the vases. Display the pictures and give each child a chance to tell about his or her artwork. • Children can look through seed catalogs and observe many different varieties of flowers. They can cut out flower pictures from catalogs and glue them on white paper for individual or group collages. • Children can design a garden of beautiful flowers! Encourage them to find flowers in the seed catalog and to color them into their paper garden. Talk about what flowers grow in your locations, but don't limit them to those flowers as they design their gardens.

More science: Talk with children about how flowers reseed themselves. Many children will have blown on a dandelion and scattered the seeds. Some may even have pulled seeds off flowers such as sunflowers. Explain that some flowers reseed themselves, and others we have to plant each year. Tell the children about some of the many ways flower seeds are transported. Some, like dandelion seeds, are very light and have parts that the wind will catch and carry away. Other seeds have little hooks that will stick on the fur of a passing animal, or a person's clothes, allowing the animal or person to carry them away.

Susan Thompson, Casper, WY

5+

Spring in Winter

Science skills

Children observe beautiful flowers growing in mid-winter and record and chart the flowers' growth.

Materials

Bulbs for paper whites, one for each child
Stones or marbles
Ruler, Unifix blocks or Cuisinaire rods
Clear plastic cups
Water
Chart with each child's name labeled

What to do

1. Place a scoop of stones or marbles in each cup, and place a bulb on top of the stones.
2. Add water to cover the stones and the bottom of the bulb, and place the cup in a sunny location where it will not be disturbed.
3. After the bulbs have sprouted, ask the children to measure their growth and record the results on the chart.

More to do

Art: Cut flower shapes out of sponges. Let the children paint a bouquet with flower prints.

More science: Plant bulbs outdoors in the fall, so in spring the children can find the sprouts.

■ *Teresa J. Nos, Baltimore, MD*

3+

Mud House

Science skills

The children observe the changes in mud "clay" as it hardens.

Materials

Mixing bowl
Soil
Water
Cookie sheet
Toothpicks
Large spoon
Grass
Loaf pan
Paint shirts
Oven

What to do

1. Mix together the soil, grass and water in the bowl. Add more water, grass or soil as needed until it is the consistency of clay.
2. Let the children touch, squeeze and mold the mixture for a few minutes and talk about how it feels.
3. Using the loaf pan as a mold, place enough of the mixture into the pan to mold it into the shape of a brick or rectangle.
4. Take it out of the loaf pan and place it on the cookie sheet. If desired, use toothpicks to draw windows, doors or even tiny brick shapes.
5. Bake in the oven on low for several hours, or bake in the sun for several days. Emphasize how mud is used to construct buildings.
6. Optionally, children could help construct a little diorama for their mud house.

More to do

More science: Add more grass and some twigs and use the mixture to build nests, beaver dams or caves.
Outdoors: Go for a walk and look for different types of homes.

Susan Rinas, Parma, OH

3+

Trio of Animal Habitats

Science skills

Children practice observation and sorting skills.

Habitats

Materials

Chart paper and marker

Small pictures of animals from various habitats: land, sea or air

A tray divided into three equal sections or a shoe box with taped-in cardboard dividers

What to do

1. Label each area in the bottom of the tray so that items can be sorted by land, air and sea (blue for water, brown/green for land, and light blue with cut-out of cloud or sun for air).
2. In a group, ask the children to think of animals that live in each area of the environment. Make a graph with a column for each habitat.
3. Take out the activity. Be sure to show the children how they are to sort, and what each picture stands for on the bottom of the tray.
4. You may also explain to the children the care to be taken with the items, how many children can use the activity at one time and how to put the activity away.

Melissa Browning, Milwaukee, WI

Indoor Pond

4+

Science skills

Over several weeks, children make and record observations and are encouraged to ask questions about nature.

Materials

Plastic wading pool
Water buckets
Goldfish
Aquarium filter
Crayons
Water
Tadpoles
Water plants
Drawing paper
Camera, optional

Note: You might want to send a note home with your children asking parents to donate these items.

What to do

1. Explain to the children that you are going to create an indoor habitat so you can watch living things grow right in the classroom. A habitat is a place where a plant or animal lives in nature. The habitat that you are going to create is a pond.
2. Ask the children to discuss what they already know about a pond and make a list of their thoughts on the chalkboard. Then ask them what they would like to learn about a pond and make a second list on the chalkboard.
3. Place the wading pool in a well-lit area of the room. Ask the children to help fill the pool about half full of water. Make sure to take the chlorine out of the water by letting the water "stand" overnight.

4. Next, allow the children to place the water plants throughout the pool. Also, place the aquarium filter in the center of the pond, making sure that you discuss water and electrical safety issues at this time.
5. The following day, let the children place several goldfish in the pond, as well as some tadpoles. You can purchase both of these at your local pet store if they have not already been donated. Discuss feeding rules and pond maintenance at this time. You might want to assign daily jobs.
6. Now ask the children to draw what they see in the pond. You might also want to take pictures of the pond, as this will help the children remember what the pond looked like when you first started this experiment. Point out the size of the fish, as well as the development of the tadpoles. This would be a good time to read several books on the life cycle of the frog.
7. Each week, ask the children to do another drawing and compare it to the ones they did earlier. If you started taking pictures, continue taking them throughout the duration of this experiment. Encourage the group to discuss the differences in the indoor pond over time, by asking such questions as, "Have the fish gotten larger? Did the plants grow? Is there algae in the pond? What is happening to the tadpoles?"
8. The children can keep track of the growth in the pond either with a large bulletin board where they can display their weekly drawings, or by placing the drawings in their individual portfolios.
9. After several weeks the children should understand what happens in a pond habitat, and you can dismantle the project. Many of the children may want to take home the inhabitants of the pond, for which you may want to consider a lottery system.

More to do

Art: Make watercolor paintings of the pond habitat.
Language: Let the children help write a song called "Old MacDonald Had a Pond" and also write about their favorite thing that lives in the pond.
Math: Help the children graph the growth of the inhabitants of the pond.

Related books

All About Ponds by Jane Rockwell
Amazing Frogs & Toads by Barry Clarke
Aquarium Take-Along Book by Sheldon Gerstenfeld
Chorus of Frogs by Joni Phelps Hunt
Fascinating World of Frogs and Toads by Maria Angels Julivert
Fish by Margaret Lane
Frogs, Toads, Lizards and Salamanders by Nancy Winslow Parker
In the Pond by Ermanno Cristini and Luigi Puricelli
In the Small, Small Pond by Denise Fleming
Life in the Pond by Eileen Curran
Lily Pad Pond by Bianca Lavies
From Tadpole To Frog by Wendy Pfeffer

Michael Krestar, White Oak, PA

This Is the House That We Built

4+

Science skills

Children are excited to watch a building under construction, and they document their observations.

Materials

Coloring items such as crayons, markers, paints
Hole punch
Ribbon, any kind
Plain white paper
Black marker

What to do

This is a great project if your school happens to be near the site of a new construction or a building undergoing a renovation or addition. In making your observations, supervise the children closely and keep them well away from the actual construction.

1. Discuss the different materials that homes are made of with the children.
2. Take children to visit a building site, if possible.
3. Discuss what they see and what they will see as days go by: machines, people at work, the building growing, etc.
4. Back at school, give the children paper and let them color a cover page for a book which they will make over the course of time it takes the workers to build the house.
5. If children can write, let them write the title; if not, let them dictate a title.
6. Take children back to the building site for visits. Have them add pages to illustrate the foundation, walls, ceiling, chimney, and so on. They can think of and dictate captions for each page. Take pictures of the house or building as it is going up to accompany the children's books.
7. As the building nears completion, discuss what the children think they might find inside. With this discussion, you could make pictures of the different rooms, furniture, perhaps even a staircase leading up or down, the fireplace, etc. They could even draw pictures of a family, perhaps pets, or other people who may use the new building.
8. If you know when moving day is, watch some of the things being moved inside. The children may want to add more pages to their books.
9. When the house is finished, the children's books should be near completion. Perhaps a landscaping picture could be the last page.
10. Collect the children's books and check for page sequence.
11. Punch holes to make the binder.
12. Lace the ribbon through the holes and tie with a bow.
13. Add the date and each child's name.

More to do

Blocks: Use wooden blocks, plastic interlocking blocks, gingerbread or milk cartons to build houses.

Dramatic play: Play house to help the children relate to what happens inside each of their homes. Find a large appliance box and let the children decorate it as a house.
Games: Play association games, for example, the children can name what goes with a house, such as a lawn, chimney, roof.
More science: To enhance listening skills, have a tape of construction sounds and let the children try to name the sounds.

Related books
A Home by Nola Langner Malone
Dinosaurs Travel: A Guide for Families on the Go by Laura Krasny Brown and Marc Brown
Mike Mulligan and His Steam Shovel by Virginia Lee Burton

Cindy Maloof, South Easton, MA

4+

Animal Habitat Run

Science skills
Children are asked to make observations, inferences and predictions and use large motor skills.

Materials
Masking tape
Large pictures of land, water and sky
Room to run
Animal pictures

What to do
1. Using masking tape, divide the area to be used into three sections.
2. Place a picture of land, water or sky in each section by hanging them on a wall or mounting them on a box to make them more visible.
3. Tell the children that different animals live in different habitats: some in the water, some on land and some in the air. Some animals move about in more than one. For example, turtles usually live in the water, but also move on land. Show some animal pictures and ask the children to tell you in which habitat each can be found.
4. Explain that you are going to continue this game in the gym (or outside). Show the defined areas of habitats. You will then name an animal, or continue to show pictures, and the children will run to the habitat area in which they think each animal lives.
5. Try calling out two or more land animals in a row so the children will not automatically move to another area.
6. Children can imitate the movements of the animals, too.

More to do
Field trip: Take a walk to a forest or pond and look for animals living in those habitats.
More science: Provide small twigs and branch sections for the children to build animal homes.

Habitats

▪ Turn your room into a rain forest. Ask your children to make several lengths of paper chains out of green and brown construction paper. Hang these from the ceiling. Hide stuffed animals, like monkeys and birds, in silk trees that you have placed around the room. Have an environmental cassette playing in the background, such as thunderstorms and showers or a Brazilian rain forest. Try running a humidifier on high to simulate the humidity. ▪ Display forest animal foods such as acorns and other nuts, seeds and berries in the classroom.

Related books
The Deer in the Wood by Laura Ingalls Wilder
In the Snow: Who's Been Here? by Lindsay Barrett George
In the Woods: Who's Been Here? by Lindsay Barrett George
It's the Bear! by Jez Alborough
Night Tree by Eve Bunting

■ *Valerie Chellew, Marshfield, WI*

Slug and Salamander Safari

4+

Science skills
This outdoor adventure encourages children to explore, observe and ask questions about nature.

Materials
Cotton swabs or ice cream sticks
Small jars or cages
Dark-colored construction paper

What to do

1. Obtain permission for children to go on a walk. Find a woodsy area where there are fallen branches and rocks.
2. Lift the rocks and branches to reveal slugs, bugs and salamanders.
3. Gently lift the creatures with fingers, sticks or cotton swabs, and place them into the jars. Encourage the children to observe them.
4. Place a slug on the dark paper to show how it leaves a trail.
5. Talk about the differences among the animals found in the same habitat and how they are alike.
6. Always return the animals to their habitats.

More to do

Art: Gather nature items while on a walk and make a habitat collage.

Games: Make a game in which the child matches the animal to its habitat: the bunny with its hold; the bird with its nest; the fish with water; the spider with its web; and people with their houses.

Related book
The Mixed-Up Chameleon by Eric Carle

Teresa J. Nos, Baltimore, MD

5+

Hermit Crab Home

Science skills
As architects of crab houses, children practice observation and fine motor skills and ask questions about nature.

Materials
A House for Hermit Crab by Eric Carle
Drawing paper
Crayons

What to do

1. Read the book *A House for Hermit Crab.*
2. Ask the children to draw and color a house for their hermit crab and then draw a hermit crab beside it.
3. Ask the children to dictate a story telling why their house would be a cozy or uncomfortable home for a hermit crab. The stories may be made into a class book.

More to do

Games: Play crab soccer or have hermit crab relays.
Math: Graph the hermit crab homes based on their coziness or suitability for a hermit crab.
More science: Let the children bring something from home that would make a good house for a hermit crab.

Stephanie Person, Kingsburg, CA

I Am Growing

3+

Science skills
This project stimulates the children's curiosity about nature and encourages fine motor development.

Materials
Construction paper

What to do

1. Send a piece of construction paper home with each child, along with a request that a parent or guardian trace his or her own hand on the paper and return it to school.
2. Help the child cut out the parent's hand.
3. Ask the child to place her hand inside the adult hand and trace around the child's hand.
4. Discuss how the adult hand and the child hand are alike and different. Discuss how much the child has grown since she was a baby and how much more growing she will do on the way to adulthood.

More to do

More science: For the children who have a baby brother or sister at home, send the hand drawing home again and ask the parent to trace the baby's hand inside the child's hand for further size comparison.

Snack: Serve each child a snack-size candy bar and a piece of fruit. Explain that some foods are "growing foods" because they provide nutrients the body needs to grow. Other foods, like candy bars, are "fun foods" but must be eaten in moderation because they do not help us grow and stay healthy.

Related book
Here Are My Hands by Bill Martin, Jr. and John Archambault

Ann Flagg, Clarion, PA

Happy Tooth, Sad Tooth

3+

Science skills
Tooth health provides a context for practicing classification skills.

Materials

Magazine pictures of nourishing food and junk food
Paper bag or box
2 posters, one with a happy tooth, one with sad tooth
Tape

What to do

1. Talk about the foods that are good for our teeth, and about the foods that have too much sugar and cause our teeth to decay. Put the magazine pictures in the bag or box.
2. Let each child draw a picture out of the bag and tape it to the correct tooth poster, the junk food on the sad tooth and the nourishing food on the happy tooth.

More to do

Snack: Extend your happy-sad tooth discussion to the lunch table. Prepare a happy-tooth nourishing snack to eat. Ask the children to help you prepare a list of happy-tooth snacks they like and distribute the lists to their parents. Ask the children to brush their teeth after lunch.

Related book

Going to the Dentist by Fred Rogers

■ *Shirley Story, Lenoir, NC*

3+

Keeping Our Teeth Clean

Science skills

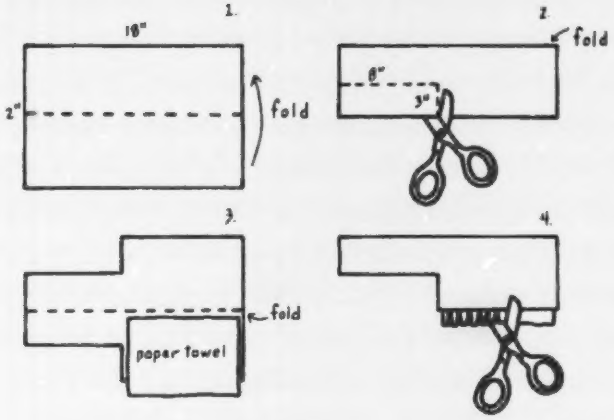
Children learn tooth hygiene and fine motor skills.

Materials

One sheet of 12" x 18" (30 cm x 45 cm) colored construction paper per child
One plain white paper towel for each child
Scissors
Glue

What to do

1. Talk about how we keep our teeth clean and healthy. Ask the children whether they brush at least two to three times a day.
2. Tell the children that they are going to make a giant toothbrush to help remind them to brush every day.
3. Fold each sheet of paper in half lengthwise. Mark off a 3" x 8" (7.5 cm x 20 cm) area on the lower corner of the paper, away from the fold, and ask the children to cut off the marked area.
4. Open the "toothbrush" and ask the children to lay the paper towel inside, extending one inch (2.5 cm) beyond the edge of the paper, then glue the paper closed.



5. Let the children fringe the paper towel with scissors to form bristles.
6. Glue a tooth-brushing chart on the front of the toothbrush, so children can mark when they brush.
7. Let the children decorate their tooth brushes.

More to do

Art: Let the children paint with real toothbrushes.

More science: Invite a dentist to visit the class.

Related books

Arthur's Tooth by Marc Brown

Berenstein Bears Visit the Dentist by Stan and Janice Berenstein

Curious George Goes to the Dentist by Margaret Rey and Alan J. Shalleck

Suzanne Maxymuk, Cherry Hill, NJ

Safety Tips

3+

Science skills

Children develop their language skills through working together.

Materials

Officer Buckle and Gloria by Peggy Rathman

What to do

1. Read *Officer Buckle and Gloria*.
2. Discuss safety tips.
3. Encourage children to come up with different safety tips.
4. Choose one child to name the safety tip and choose another volunteer to act it out.

More to do

Art: Ask the children each to draw a picture of a safety tip. Put these drawings together in a book.

Games: Without identifying the safety tips, encourage a child to act one out and let the others guess what it might be.

Related book
A Day in the Life of a Police Officer by Eric Arnold

■ *Suzanne Maxymuk, Cherry Hill, NJ*

3+

Wash Off Those Germs

Science skills
Children learn about germs with this interesting experiment.

Materials
2 slices white bread
2 resealable plastic bags, one labeled "dirty hands" and the other labeled "clean hands"
Permanent marker

What to do
1. At circle time, talk about how we all have germs on our hands.
2. Ask children to look at their hands and see if they can see any germs.
3. Explain that when the children come in from the playground, everyone needs to touch the bread in the bag labeled "dirty hands." Then put the piece of bread in the bag and leave it in the science center.
4. Next, have everyone wash their hands and touch the other piece of bread, then put it in the resealable plastic bag and leave it in the science center.
5. Observe over the next few weeks and compare the mold on both pieces.
6. Show children how to wash their hands and, if they are interested, repeat the experiment.

■ *Holly Dzierzanowski, Austin, TX*

4+

Those Icky, Sticky Germs

Science skills
With this demonstration of the germ theory, children make observations and inferences.

Materials
2-3 cups (500 ml to 750 ml) moist, cooked rice
Newspaper or plastic to cover floor
Marker
Plastic bag or bowl
Large piece of paper

What to do

1. Explain to the children that germs are very, very tiny organisms that can enter our bodies and make us sick. Germs are so small that you need a microscope to see them. Most of the time, the special germ fighters in our bodies stop the germs before we get sick, but sometimes we get colds and flu anyway.
2. Place the cooked rice in the plastic bag or bowl. Explain that the rice is the pretend germs.
3. Ask three to four children to stand side by side in a line. For easier clean-up, cover the floor where they will be standing with plastic or newspaper.
4. Let the first child in line dip her hand in the bag or bowl, squeeze the rice and release any loose rice in her hand.
5. This child shakes hands with the next child in line, that child shakes hands with the next, etc. All the children will have some rice on their hands.
6. Point out how easily the "germs" were spread from person to person.
7. Discuss with the children the fact that one way we can stop germs from spreading is to wash our hands. Ask the children when they think people should wash their hands to prevent the spread of germs. Record answers on large paper.

More to do

Art: With a white bar of soap, let the children make drawings on white construction paper. Brush over the soap drawing with watercolor paints. The paint will not stick to the soaped areas.

Cooking: Mix together 2 cups (500 ml) Ivory Snow Flakes and ½ cup (125 ml) water tinted with food coloring and form into balls. To make shaped soaps, press the mixture into candy molds. These soaps make great gifts, and the activity extends the germ/hand washing lesson to the home.

More science: Explain again that we can't see germs, but that they can be anywhere! Out of view of the children, spread a thin layer of petroleum jelly on doorknobs, faucet handles, tabletops or any item that is easily cleaned and that the petroleum jelly will not harm. Tell the children that as they play, they may find some "germ areas." If they touch something "greasy," they should immediately wash their hands so they don't spread the "germs." At the end of the day, ask the children where they found the "germs."

Original song

Those Icky Germs Are Always Around (sing to the tune of "Santa Claus Is Coming to Town")

You better use soap,
And wipe your hands dry.
It's important to do,
I'm telling you why—

Those icky germs are always around!

They're very sneaky,
And very quick.
Wash your hands well,
So you don't get sick—

Those icky germs are always around!

They're around when we are sleeping.
They're around when we're awake.
They're around on everything we touch,
So wash for goodness sake.

Oh...

You better use soap,
And wipe your hands dry.
It's important to do,
I'm telling you why—

Those icky germs are always around!

Related books

Body Battles by Rita Golden Gelman
Those Mean Nasty, Dirty Downright Disgusting But...Invisible Germs by Judith Rice

Kathy A. Lone, Sioux Falls, SD

4+

Safe or Not Safe

Science skills

Children practice classification and observation skills.

Materials

Pictures cut from magazines
Smiley faces and sad faces cut from cardboard
Laminating machine or clear contact paper

What to do

1. Cut out and laminate pictures showing things that are safe and things that are not safe (for example, child falling off a bike, mother cooking in the kitchen, baby riding in a car seat). Place the happy and sad faces on a table, along with a pile of the laminated pictures.
2. Talk to the children about safety and about things to do and to remember in order to keep ourselves safe.
3. Let the children choose pictures and take turns placing them under the right face, safe ones under the happy face, unsafe ones under the sad face.
4. This is a good time to review general safety rules, as well as to teach the children about dialing 911 in case of a true emergency.

More to do

Art: The children can illustrate their own ideas of safe and unsafe activities and situations.

Sandra Hutchins Lucas, Cox's Creek, KY

Holidays

Valentine Vine

3+

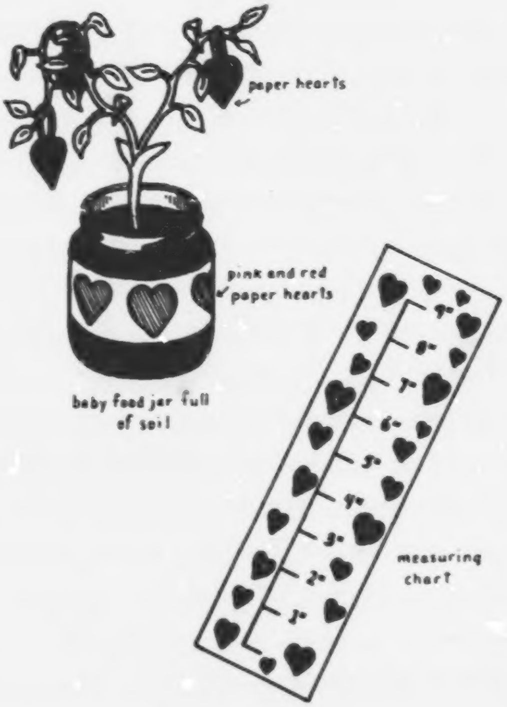
Science skills
Children make observations and measurements while creating a holiday gift.

Materials
Baby food jars
Red and pink construction paper
Glue
Beans
Potting soil

What to do

1. A few weeks before Valentine's Day help the children decorate the baby food jars by gluing on pink and red construction paper hearts.
2. Allow each child to place soil in the bottom of his jar and plant a bean sprout.
3. For the next two weeks help the children water and observe the sprouts, measuring the plants' growth with a Valentine's Day measuring chart.
4. Right before Valentine's Day decorate the vine with cut out paper hearts and allow the children to take them home for someone special.

Lisa M. Lang, Parkersburg, WV


paper hearts
pink and red paper hearts
baby food jar full of soil
9"
8"
7"
6"
5"
4"
3"
2"
1"
measuring chart

Jingle Bells

3+

Science skills
Children make observations and inferences, draw conclusions and practice auditory skills.

Materials

2 very small jingle bells
2 medium-sized jingle bells
2 large jingle bells
2 extra large jingle bells (the type used as door decorations)
8 pieces of yarn, ribbon or string
Bag or basket

What to do

1. Before group time, tie the ribbons onto the bells.
2. Divide the bells into groups, one size bell for each group.
3. Place one group of bells on a table or the floor in front of you.
4. Hide the other bells in a bag or basket. They should not be visible to the children. Explain to the children that you are going to play a guessing game.
5. One by one, ring the visible bells for the children, asking the children to listen to the sound.
6. Ring one of the concealed bells and have the children guess which of the visible bells it sounds like. Continue to match all the bells.
7. Talk about tone, and the qualities of high, low, soft, loud.
8. Add these bells to your science center.

More to do

Music: Using pipe cleaners, attach jingle bells to the children's shoes. Walking becomes musical! Can they march out a tune with the bells on? ▪ Make "jingle sticks" by attaching bells and colored crepe paper streamers to popsicle sticks or jumbo craft sticks. ▪ Have a jingle parade with instruments from the music center. ▪ Play the matching game above using musical instruments. ▪ Ask the children to make a list of things with bells. Examine some of these other bells: doorbells, bells on timers, kitchen appliances, bicycles, etc.

Related song

Chant this little song:

Ring, ring, ring your bells
Ring them high and low.
Ring them left and ring them right,
Ring them fast and slow!

Related book

The Doorbell Rang by Pat Hutchins

Linda Ford, Sacramento, CA

Pumpkins

3+

Science skills
Children observe the growth of a pumpkin and make predictions and inferences.

Materials

From Seed to Jack-O'Lantern by Hannah Lyons Johnson, or another favorite pumpkin story
Flannel board story pieces:

Pumpkin seed
Pumpkin
Pumpkin plant
Jack-o-lantern

What to do

1. During circle time read *From Seed to Jack-O'Lantern,* or the story you chose.
2. As you read the story, place the flannel board pieces on the board in the order they come in the story.
3. After you finish the story, start a discussion by asking what was the first thing the brother and sister did in order to have a pumpkin. Plant a pumpkin seed. How did they take care of the pumpkin patch? They watered, weeded and made sure the plants got plenty of sunshine. What did they do with the pumpkin after it was grown? They made a jack-o-lantern for Halloween. Questions can be posed according to the story the teacher chooses to use.

More to do

Art: Make a reverse painting of a jack-o-lantern using these materials: tray, orange paint, cornstarch, water to mix the paint and pumpkin shapes. Place the materials on a table. The teacher will sprinkle the orange tempera and cornstarch onto the tray. Add enough water to mix the paint thoroughly. The paint should be thick, like finger paint. If you prefer, use premixed orange finger paint. Ask one child at a time to come over to the table, and give the child a pumpkin shape. Ask him to draw a face on the tray, and to gently lay the pumpkin down on the tray, covering the face. Let the child gently press on the pumpkin, and carefully lift the pumpkin from the tray. Set the pumpkin aside to dry, and later hang it up. • Make crazy quilt pumpkins with these materials: scraps of fabric, pumpkin shapes, glue sticks. Let the children cut the fabric into small pieces. This is an excellent way to let them practice their scissors skills. When they are finished cutting up the fabric, push it into a pile in the middle of the table. Hand out the pumpkin shapes, and let the children use the glue stick to smear glue onto the pumpkin. Now they may choose fabric pieces, and put them down on the pumpkin in the glue. After the pumpkins are all done, hang them up. • Make wallpaper pumpkins, using different kinds of wallpaper scraps. Ask the children to trace jack-o-lanterns out on the wallpaper. Let them cut out the pumpkins, and hang them up in the room. • The teacher can make a classroom pumpkin patch on the bulletin board for hanging the above projects. Make a sign, Our Pumpkin Patch, and add a scarecrow. As the children finish their pumpkin projects, add them to the board.

Snack: Make pumpkin muffins for snack time.

Related books
How a Seed Grows by Helen J. Jordan
It's Pumpkin Time by Zoe Hall
The Pumpkin Patch by Elizabeth King
Pumpkin Pumpkin by Jeanne Titherington

Sherri Lawrence, Louisville, KY

3+

Scallop Shell Tree Ornaments

Science skills
Children are encouraged to ask questions about nature.

Materials
Scallop shells, one for each child
Glitter
Narrow ribbon or cord
White glue
Electric drill

What to do
1. Prepare the shells ahead of time by scrubbing them and drilling a hole at the base of each one.
2. Show a scallop shell with both halves attached. Read about shellfish and show pictures, explaining how an animal once lived inside the shell.
3. Demonstrate the easy way to draw a star with the white glue: first make a cross, then an X on top of the cross. Let the children draw their stars with the glue on the concave side of the shell.
4. Sprinkle the glue with glitter and shake off the excess. Allow to dry.
5. Attach a ribbon or cord hanger.

Mary Jo Shannon, Roanoke, VA

Holidays

Silver Polishing 3+

Science skills
This is an opportunity for observing and for developing fine motor and social skills.

Materials
Tartar-control toothpaste (not gel) or cream silver polish (toothpaste is non-toxic)
Small plastic containers, such as empty catsup or mustard cups from a fast-food restaurant
Small sponge
Soft cloth for polishing
A tarnished silver spoon or small bowl
Apron or smock

What to do

1. Squeeze some toothpaste into the container.
2. Use the sponge to apply the toothpaste to the silver, pointing out the dark tarnish.
3. Rub and observe changes.
4. Polish with the cloth and observe the shine.
5. Children may work on the silver once you have demonstrated. One child should not be expected to complete the project. It requires a lot of patience and effort. Let each child clean and shine a spot or two, then all can enjoy the beauty of their joint effort. Although it seems a chore to adults, children love to see the magic as the dull, dirty surface begins to gleam.

Mary Jo Shannon, Roanoke, VA

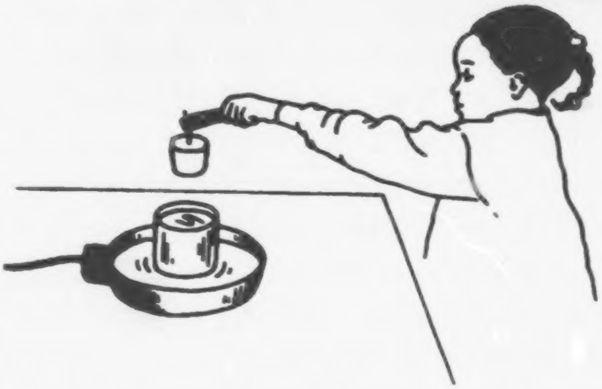
Thanksgiving Candles 4+

Science skills
Here is a delightful activity that provides an opportunity for observation and fine motor skill practice.

Materials
Electric skillet
Empty soup can with label removed
Crayon with paper wrappings removed
White votive candles, one for each child
Water
Paraffin wax
Spring-type clothespins
Waxed paper

What to do

1. Ahead of time, fill the electric skillet about half full with water. Place the empty soup can into the center of the pan. Put chunks of paraffin wax in the can, as well as the crayon. Turn the skillet on medium to melt the wax and crayon; stir frequently. Turn temperature down to low when wax and crayon have melted.
2. With the children, discuss the fact that the pilgrims made their own candles from wax. These people needed lots of candles since they did not have electric lights, and they made different sizes and colors of candles. To make candles, they dipped wicks into hot, melted wax many, many times until the candles were just the right size and shape. It was a lot of work for pilgrims, but very necessary!
3. To dip candles with the children, place the skillet away from the edge of the table, about a child's arm length away. Be sure to tell each child not to touch the skillet, the water, the can or the wax because they are hot! Place the wick of each votive candle into the closure of a spring-type clothespin. The clothespin is the only thing the children will touch. Help each child make the first dip, covering the candle to the base of the wick and then pull it up and out. Count to 10, then dip again. Repeat up to five times. Do not hold the candle in the wax for a very long time or it will start to melt the candle. Place the candle on waxed paper to cool completely.
4. Send home directions for doing this activity at home. The children will want to make several!
5. We saved our candles for part of a holiday gift for parents. We thinned glue and used it to glue tissue paper squares to baby food jars. We placed the candles inside and wrapped them up.



More to do

More science: Encourage the children to plan a Thanksgiving celebration and to make the decorations. Use the candles in arrangements for the tables.

Related song

I'm a Little Candle (sing to the tune of "I'm a Little Teapot")

I'm a little candle
Short and thick.
Here is my wax
And here is my wick.
When I get all fired up
I just shout;
Watch me glow,
Then blow me out!

Valerie Chellew, Marshfield, WI

The Great Dreidl Race

5+

Science skills
Children make predictions and draw conclusions.

Materials
Assortment of four to six dreidls, made of metal, plastic, wood, clay
Large sheet of chart or graph paper
Marker
Timer

What to do

1. Although it is not necessary to introduce the dreidls as more than "tops used in a game played during the Jewish festival of Hannukah," it might be more meaningful to teach the game prior to engaging in this activity. You can find a complete explanation of the game, including detailed directions, in many nonfiction books about the celebration of Hanukkah.
2. Display the dreidls and ask the group, "How are these dreidls the same? How are they different?" Encourage a variety of responses and record on the chart paper descriptions of each dreidl, emphasizing the material(s) of which each is composed as its "identifier."
3. Allow the children to examine and spin the dreidls. Encourage predictions by asking, Which dreidl do you think can spin for a longer time than the others? Why? Guess which one will spin for the shortest amount of time.
4. Experiment by spinning each dreidl, timing the length of its spin and recording the results on the graph next to its description. Try involving the children as timekeepers and recorders. It would be fun to let the children take turns spinning. Or, for consistency of the spins and to remove the variables associated with differing levels of skill, you may want to do the spinning yourself. Repeat this step two to three times to get a more accurate sampling.
5. Discuss the results, comparing them to the class's original predictions. Then, help the class draw conclusions based on those results.

More to do
Math: Highlight the concepts of time measurement in the activity above.
Movement: Invite the children to move like dreidls to music in a clear, open area of the classroom. Make sure there is ample unobstructed space for your little spinners.
Snack: Bake and decorate delicious dreidl-shaped sugar cookies.

Marji E. Gold-Vukson, West Lafayette, IN

3+

And Now a Butterfly!

Science skills
This activity encourages questions about nature and the use of fine motor skills.

Materials

Cardboard egg cartons
Pipe cleaners
Glue
Tape
Paint and paintbrushes
Butcher paper
Scissors
Paper towels

What to do

1. On the first day, cut an egg carton in half lengthwise and poke two holes in one end. Help the child pull a pipe cleaner through the holes to make the antenna. Then the child paints her egg carton caterpillar. Children may want to name their caterpillars.
2. On the second day, the child can wrap the caterpillar up in a paper towel for a cocoon. The child can paint a large butterfly shape on the same day on butcher paper and cut it out.
3. On the following day, the children get to take their caterpillars out of the cocoon and glue them onto the butterfly shape, so that they are transformed into butterflies. You may need to tape the wings on as the glue dries or put a weight on the egg carton to hold it down. When the butterflies are dry, the children make them swirl through the air.

More to do

Movement: Watch a caterpillar change into a moth or butterfly. Act out being a tiny egg, then crawling around as a caterpillar, spinning a cocoon and finally flying with wings.

Related books

The Caterpillar and the Polliwog by Jack Kent
See How They Grow by Patricia Pearse
The Very Hungry Caterpillar by Eric Carle

Laura Durbrow, Lake Oswego, OR

Insects

Big Book of Butterflies

3+

Science skills
The children make observations and predictions and gain experience in sequencing.

Materials

Large handmade book with poster board on the front and back and white paper in the middle
Hole punch
Pipe cleaners
Crayons
The Very Hungry Caterpillar by Eric Carle

What to do

1. Each child will make her own big book. Read the story *The Very Hungry Caterpillar.*
2. Have a class discussion about all the different things a caterpillar might eat. Each day for several days the children draw pictures of these things in their books. After they finish each picture, punch a hole in the middle of it. Let them continue for about five to six days with the different things the caterpillar eats. On day seven, ask each child to draw the cocoon or chrysalis, and punch a hole in that as well.
3. The next day let the children draw a beautiful butterfly on the last page, with a hole where the head would be.
4. Now the children can tell the story, with their pipe cleaner "caterpillar" eating its way through all those foods, and then finally emerging as a butterfly.

Theresa M. Jarmuz, Lancaster, NY

Bringing Insects Indoors

3+

Science skills
An insect in the classroom allows observation and stimulates discussion about nature.

Materials

Bug container and net

What to do

1. Take the children exploring outdoors. When you find an insect to observe, scoop up some of its habitat—the dirt and/or leaves surrounding it—and place the insect inside the container.

2. Bring the container indoors and let the children observe the insect for a few days. Explain to the children why it is very important to return the insect to its natural habitat.
3. Share insect facts with your class: all insects have six legs, two antennae and three body parts: the head, thorax and abdomen. Most progress from egg to adult insect.

Cindy Winther, Oxford, MI

3+

Bug Hunt

Science skills
Children closely observe insects.

Materials
Containers for collecting bugs
Magnifying glasses

What to do

1. At circle time read a book or show pictures of bugs and insects you may find in your area.
2. Ask the children if they know the story song "Bear Hunt." Tell them instead of a bear hunt you are going on a bug hunt. Pass out containers for bugs.
3. Sing as you go: We're going on a bug hunt, through the tall grass, through the mud, through the river, climb the mountain, etc., until you reach the area in which you will look for bugs. Allow the children to fan out and look for bugs to put in their containers. If you live in an area where there are dangerous bugs, be sure to tell the children to ask an adult before they touch a bug.
4. Encourage and assist the children to look under rocks, the bark of a tree, dead logs, and in or on plants. Help them put bugs in their containers.
5. When everyone has found at least one bug, return to the classroom. Be sure to go back down the mountain, through the river, etc.
6. Look at the bugs with a magnifying glass. After you are finished, you may return the bugs to their homes.

More to do

More science: Put some bugs in the science area or in an aquarium for a Bug Zoo. Provide the children with books so they can identify the bugs.

Helen DeWitt, Cochise, AZ

Insects

Fingerprint Bugs

3+

Science skills

Children make observations and use fine motor skills.

Materials

Washable ink pads
Pen
Paper

What to do

1. After a unit on insects, encourage the children to talk about their favorite insects.
2. Set out ink pads and ask the children to use one finger to make fingerprints. Five or six fingerprints together form a caterpillar. Two fingerprints with wings form a butterfly. One fingerprint with legs makes a spider. Use a pen to make legs and eyes.

Related books

I Wish I Were a Butterfly by James Howe
The Very Busy Spider by Eric Carle
The Very Hungry Caterpillar by Eric Carle

■ *Sandra Hutchins Lucas, Cox's Creek, KY*

I Can Fly!

3+

Science skills

As they act out a butterfly's life cycle, children become interested in nature.

Materials

Books about caterpillars and butterflies
Paper flowers
Scarves
Green paper leaves
Flexible exercise or nap mat

What to do

1. Examine books, pictures and models of caterpillars and butterflies.
2. Scatter paper leaves and flowers around the room.

3. Let the children crawl around the room on their bellies in search of leaves to munch (pretend munching only!).
4. One at a time, children crawl to the narrow end of the mat and are given two scarves. Take turns rolling up each child snugly in the mat.
5. The child wiggles and breaks free and flies around the room with scarf wings to visit flowers, sip nectar and lay eggs.

More to do

Art: Fold a 9" x 12" (22.5 cm x 30 cm) piece of construction paper in half, short end to short end. Trace half a butterfly on the fold and cut it out, but don't cut the fold. Open and dribble paint on the wing. Close and rub. Open to reveal "inkblot" decorated wings.

Games: Create a matching game by making pairs of matching paper butterflies with decorated wings. Hide one butterfly in the room. Give each child the matching butterfly, and let her find the mate.

Snack: Make a butterfly salad with half a banana for body and a half pineapple ring for each wing. Fill in the wings with cottage cheese and decorate with grape halves, peanuts and raisins.

Original poem

Say this poem and perform the actions with the children.

Roly Poly Caterpillar into a corner crept. (creep one hand up opposite arm)
Wound around himself a blanket, (winding motion with hands)
For a long time slept. (lay head on hands)
Roly Poly Caterpillar waking by and by, (pop head up)
Found himself with beautiful wings, changed to a butterfly! (hook thumbs together and flap hands)

Related books

Butterfly and Caterpillar by Barrie Watts
Look—a Butterfly by David Cutts
The Very Hungry Caterpillar by Eric Carle

■ *Sandra Gratias, Perkasie, PA*

3+

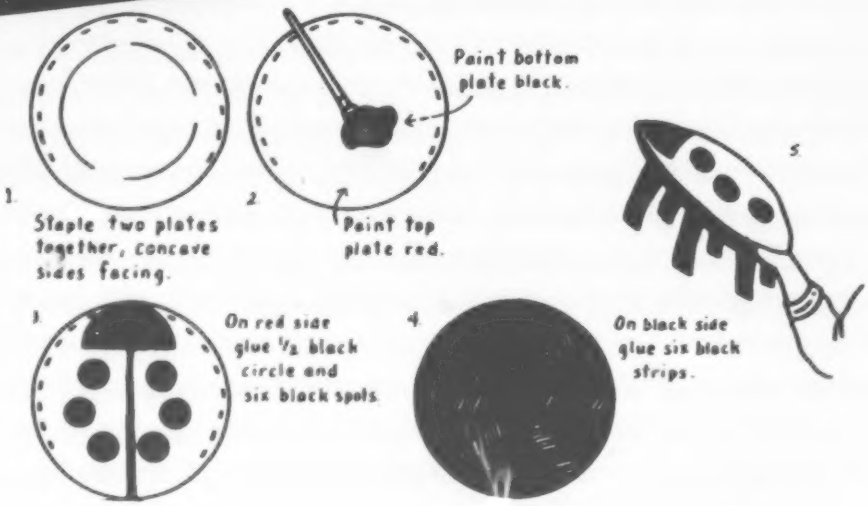
Ladybug Tickle Puppet

Science skills
Children make observations, then use creativity and fine motor skills to make a puppet.

Materials

Pictures and books about ladybugs
Two 6" (15 cm) paper plates for each child
Black construction paper
Stapler
Red and black crayons
Glue

Insects


1.
Staple two plates together, concave sides facing.
2.
Paint bottom plate black.
Paint top plate red.
3.
On red side glue 1/2 black circle and six black spots.
4.
On black side glue six black strips.
5.

What to do

1. Read a book about ladybugs and allow the children to examine pictures.
2. Staple the plates together along the edges, three quarters of the way around. The concave sides of the plates should be facing each other.
3. Color the top plate red and the bottom plate black.
4. Cut out and glue black spots on the red side and 6 black strips for legs on the black side. Glue a black half-circle for the head on one end of the plate, opposite the open section.
5. The child inserts her hand in the open section of the edge and uses the ladybug as a puppet.
6. Older children may want to color both plates black and color a third plate red. Glue black dots on the red plate and cut it in half. Attach it to the puppet with a brass fastener so the red halves will open when the ladybug flies.

More to do

More science: Order a ladybug hatchery from a science catalog. Watch the life cycle of the ladybug. • Compare ladybugs to other beetles.

Original song

Chant and do the hand motions:

Ladybug, Ladybug, red and black.
Ladybug, Ladybug with spots on its back.
Ladybug, Ladybug tickled me today.
Ladybug, Ladybug, (blow) fly away!

Related books

The Icky Bug Alphabet Book by Jerry Pallotte
The Ladybug and Other Insects by Pascale De Bourgoing

Sandra Gratias, Perkasie, PA

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3+

Make a Caterpillar

Science skills

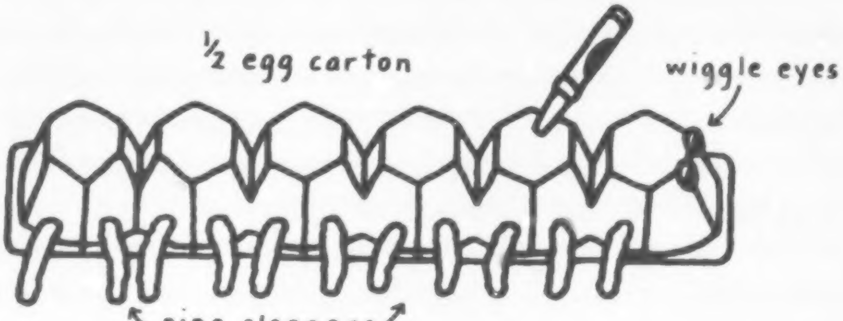
In making this caterpillar, children learn about what caterpillars look like and use their fine motor skills.

Materials

- *The Very Hungry Caterpillar* by Eric Carle
- Hole punch
- Markers
- Wiggle eyes
- Egg cartons cut in half lengthwise, one per child
- Pipe cleaners
- Glue

What to do

1. Read *The Very Hungry Caterpillar* with the children to learn about the caterpillar's life cycle. Then help them make their own caterpillars.
2. Cut the egg cartons in half lengthwise and glue on the wiggle eyes.
3. Punch holes for pipe cleaner legs and use the markers to color the caterpillar.



More to do

Art: Make butterfly finger puppets using paper coin roll covers. Punch a hole for pipe cleaner antennae and glue on two paper wings.

Dramatic play: Use a sock to be the very hungry caterpillar and have paper foods for him to "eat" through. With the sock over her arm, a child can slip her arm through the holes in the paper foods. Hide a butterfly inside the sock for the caterpillar to turn into.

Original poem

Caterpillar, caterpillar
Don't ask me why
You hang upside down
And change into a butterfly!